HP High Performance Clusters LC 1000 Series Design and Configuration Guide

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Introduction

Summary:
The LC 1000 Series Design and Configuration Guide provides an easy and flexible way to design High Performance Computing (HPC) clusters. It is easy to design an HPC cluster with this guide because everything needed for the cluster is specified through Reference Designs. The flexible process provides the ability to fully configure the cluster by selecting the number of compute nodes in the cluster, type of cluster interconnect network, processor types, processor speeds, other server options, storage subsystems, storage options, and software options.

Reference Designs:
The LC 1000 Series Cluster Reference Designs in this guide serve as the foundation for designing an HPC cluster. The Reference Designs include wiring diagrams of the three cluster networks: In Band (IB) and Out of Band (OOB) management networks and the cluster interconnect network. The Reference Designs contain rack configurations detailing component placement in the racks and the location of the potential expansion compute nodes and switches. The Reference Designs also provide comprehensive parts lists to assist you in the order process. The parts lists include all of the part numbers and part descriptions, along with their respective quantities, needed to build an LC 1000 Series Cluster. The Reference Designs are distinguished from one another by the types and sizes of the cluster interconnect network switch. The types of cluster interconnect networks supported by the LC 1000 Series Clusters are: Myrinet, Gigabit Ethernet and Fast Ethernet. Each cluster interconnect network switch supports a certain range of compute nodes and can be expanded to some maximum number of compute nodes.

Using the Design and Configuration Matrix:
The LC 1000 Series Design and Configuration Matrix assists in selecting an LC 1000 Series Cluster Reference Design to be customized to meet your needs. By utilizing three basic inputs, the LC 1000 Series Design and Configuration Matrix helps define the most cost efficient cluster interconnect network switch solution while satisfying both your current compute node count configuration needs and future compute node count expansion plans.

The three basic inputs needed to define the cluster configuration are located in the first three columns of the Design and Configuration matrix. Select a Cluster Interconnect Network, the number of Compute nodes to make up the cluster, and the maximum number of Compute nodes you may expand the cluster to in the future. Each selection from left to right narrows down the potential options. Once the three selections are made, the result on the right hand side of the matrix is a particular Reference Design and Reference Parts List as well as the page(s) to find them on. The resulting page(s) provide(s) a detailed reference wiring diagram, a reference rack configuration diagram, and a Reference Parts List. Refer to the quantity column of the Reference Parts List whose range includes the selected compute node count. Each quantity column encompasses an entire cluster solution. (Note: Use only the column for your desired node count.) Once the correct column quantity is selected, record the quantities needed for each part in the appropriate cluster interconnect network Order Worksheet. Order Worksheets for each cluster interconnect network are included in this document to assist in recording the quantities needed to order the LC 1000 Series Cluster. Where prompted, substitute the number of compute nodes selected for the # sign in the simple equations.

An Options Worksheet is also available in this document to order hardware options for the DL380 (Control node) and DL140 (Compute node). Options include, but are not limited to, additional processors, memory and disk capacity. All Compute nodes must be identically configured.

Software Options:
Software options such as operating system media and licenses are available. Please refer to the LC 1000 Series Software Options worksheet for part numbers and quantities. The operating system options available with the LC 1000 Series Clusters include Red Hat 3 one year and three year licenses, SLES 8 one year and three year licenses, and Microsoft Windows Server 2003. Separate part numbers are provided for Control and Compute nodes. When ordering Red Hat 3 and SLES 8, the first group of eight compute nodes require a special part number to be ordered that contains the media, HP Care Pack, and the base eight licenses. The licenses for the additional groups of eight compute nodes should be ordered using the separate part number indicated in the Software Options table. The licenses for Microsoft Windows come in bundles of 16 for the Compute nodes.

Scali Manage/Connect software is also available. The appropriate Control node media and license and the correct number of Compute node licenses must be ordered. Scali Manage/Connect is supported on Linux operating systems only.

Storage Subsystems:
Storage Subsystems are also available for the compute cluster. In the LC 1000 Series Design and Configuration Guide, several Storage Subsystems have been defined with wiring diagrams, rack configurations, and Reference Parts Lists. The Storage Subsystems are attached to the compute cluster via the In Band Gigabit Ethernet network. If you would like to select one of the Storage Subsystems, simply place the order using the appropriate Reference Parts List.

To add storage options, please refer to the Storage Subsystem Options worksheet.

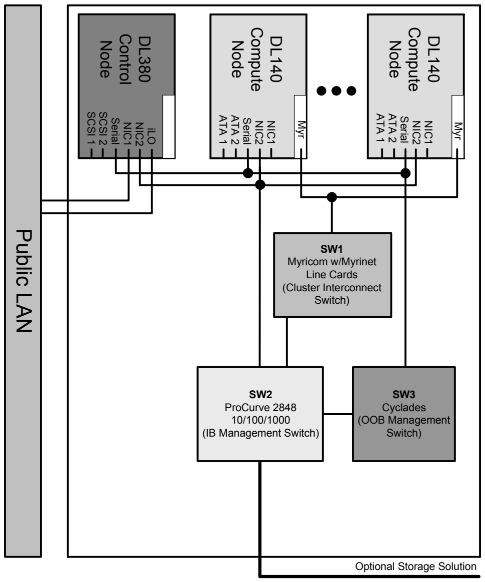
Using the Upgrade Worksheets:
There are Upgrade Worksheets for each cluster interconnect network included in this document. Each Reference Design has its own maximum expandability as illustrated by the LC 1000 Series Design and Configuration Matrix and listed on each LC 1000 Series Cluster Reference Design page. To expand your Compute node count, find the correct cluster interconnect network Upgrade Worksheet and fill out the Current Configuration column and the New Configuration column using the appropriate Reference Parts List. Depending on the situation, these two inputs could come from separate quantity columns but will always come from the same Reference Design. Then subtract the quantity of each part in the Current Configuration column from each part in the New Configuration column, and enter the difference in the Parts Needed column. The generated Parts Needed column provides you with exactly the necessary parts to achieve your new configuration.

LC 1000 Series Design and Configuration Matrix

Select			Result		
Cluster Interconnect Network	# of Compute Nodes	Maximum Future Expansion	Reference Design	Reference Parts List	Pages
Myrinet	1 - 32	32	16 Node Myrinet	1 - 32 Nodes	6
	1 - 64	64	32 Node Myrinet	1 - 32 Nodes	7
				33 - 64 Nodes	7
	29 - 128	128	64 Node Myrinet	29 - 68 Nodes	8 - 9
				69 - 108 Nodes	8 - 9
				109 - 128 Nodes	8 - 9
GigE	1 - 22	22	16 Node GigE	1 - 22 Nodes	11
	1 - 36	36	24 Node GigE	1 - 36 Nodes	12
	1 - 64	64	32 Node GigE	1 - 32 Nodes	13
				33 - 64 Nodes	13
	29 - 128	128	64 Node GigE	29 - 68 Nodes	14 - 15
				69 - 108 Nodes	14 - 15
				109 - 128 Nodes	14 - 15
Fast Ethernet	1 - 22	22	16 Node FE	1 - 22 Nodes	17
	1 - 36	36	24 Node FE	1 - 36 Nodes	18
	1 - 32	72	32 Node FE	1 - 32 Nodes	19
	33 - 192	192	64 Node FE	33 - 72 Nodes	20 - 21
				73 - 112 Nodes	20 - 21
				113 - 152 Nodes	20 - 21
				153 - 192 Nodes	20 - 21

LC 1000 Series 16 Node Myrinet DL140 Cluster Reference Design

Myrinet (expandable to 32 nodes)



U	Rack 1 (R1)	
42		
41		
40	S 33	Expansion
39	S 32	Expansion
38	S 31	Expansion
37	S 30	Expansion
36	S 29	Expansion
35	S 28	Expansion
34	S 27	Expansion
33	S 26	Expansion
32	S 25	Expansion
31	S 24	Expansion
30–29	S 23	DL380
28	S 22	Expansion
27	S 21	Expansion
26	S 20	Expansion
25	S 19	Expansion
24	S 18	Expansion
23	S 17	Expansion
22	SW 3	Cyclades
21	SW 2	ProCurve 2848
20	TFT5600	
19	S 16	DL140
18	S 15	DL140
17	S 14	DL140
16	S 13	DL140
15	S 12	DL140
14	S 11	DL140
13	S 10	DL140
12	S 9	DL140
11	S 8	DL140
10	S 7	DL140
9	S 6	DL140
8	S 5	DL140
7	S 4	DL140
6	S 3	DL140
5	S 2	DL140
4	S 1	DL140
3–1	SW 1	Myricom 5 slot chassis w/Myrinet line cards

Part Number Key

	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

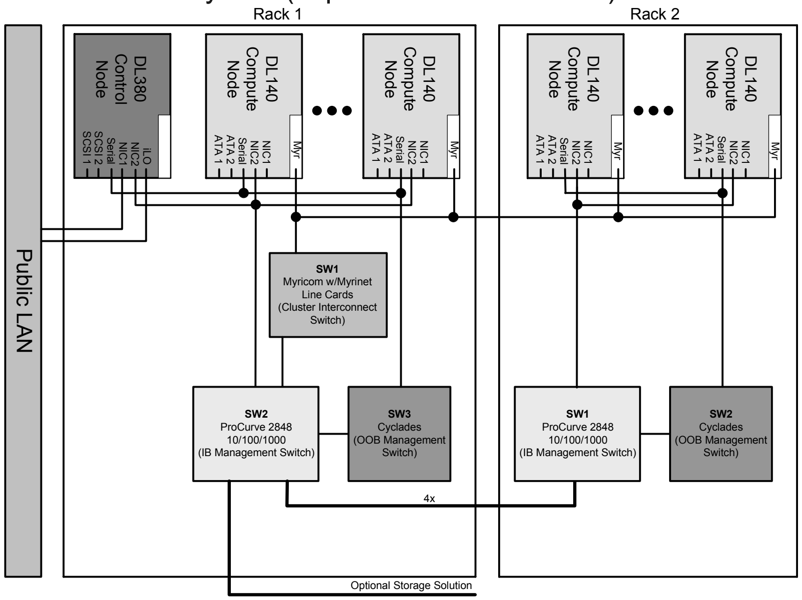
Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Part Numbers	LC 1000 Series Parts List Myrinet	1 - 32 Nodes (32 Node Max)
	Factory Integration	**Quantity**
325733-888	Level 4 Factory Integration	1
359578-B21	Configuration Resource Kit	1
	DL380G3 Control Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
	DL140 Compute Nodes	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM	
257894-006	Myrinet Fiber PCI-X Single Port Adapter Card - M3F-PCIXD-2	#
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#
	IB / OOB Management Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	1
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	1
365242-001	Cyclades RS-232 to RJ45 Adapter	#
	Cluster Interconnect	**Quantity**
257896-002	Myrinet 5-Slot Switch Frame, 3U, Max Support 32 Ports - M3-E32	1
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64	
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128	
257895-001	Myrinet 8-Port Fiber Switch Card With XBar - M3-SW16-8F *** Round up to the nearest integer.	# / 8
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M	1
337807-001	Myrinet Front Blanking Panel - M3-BLANK *** Round down to the nearest integer.	4 - (# / 8)
360363-B21	Myrinet Switch Rail Kit	1
	Common Interconnect Parts	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	2
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	3
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	# * 2 + 2
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	2
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2
221692-B22	Fiber Cable, LC-LC, OPTICAL, 5M	#
221692-B23	Fiber Cable, LC-LC, OPTICAL, 15M	
	Rack and Power Components	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	1
221546-YYY	TFT5600RKM	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 8, then 1. If 8 < # <= 22, then 2. If # > 22, then 3.
246099-B21	Side Panel 42U, 10K Series All	1
246107-B21	Stabilizer 600mm, 10K Series All	1
248929-B21	Baying Kit, 10K Series All	
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(39 - #) / 10

LC 1000 Series 32 Node Myrinet DL140 Cluster Reference Design

Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Myrinet (expandable to 64 nodes)



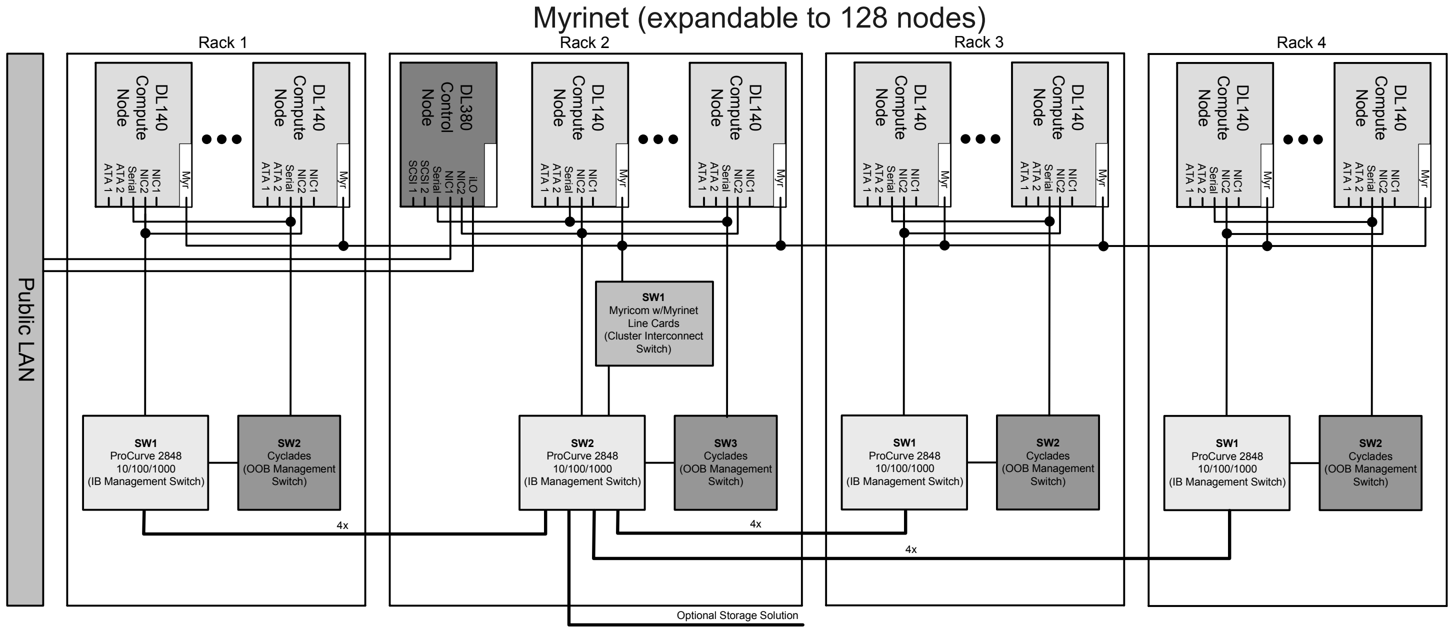
U	Rack 1 (R1)	U	Rack 2 (R2)
42	S 33 DL140	42	
41	S 32 DL140	41	
40	S 31 DL140	40	
39	S 30 DL140	39	
38	S 29 DL140	38	
37	S 28 DL140	37	
36	S 27 DL140	36	
35	S 26 DL140	35	
34	S 25 DL140	34	S 32 Expansion
33	S 24 DL140	33	S 31 Expansion
32	S 23 DL140	32	S 30 Expansion
31	S 22 DL140	31	S 29 Expansion
30	S 21 DL380	30	S 28 Expansion
29		29	S 27 Expansion
28	S 20 DL140	28	S 26 Expansion
27	S 19 DL140	27	S 25 Expansion
26	S 18 DL140	26	S 24 Expansion
25	S 17 DL140	25	S 23 Expansion
24	S 16 DL140	24	S 22 Expansion
23	S 15 DL140	23	S 21 Expansion
22	SW 3 Cyclades	22	SW 2 Expansion
21	SW 2 ProCurve 2848	21	SW 1 Expansion
20	TFT5600	20	S 20 Expansion
19	S 14 DL140	19	S 19 Expansion
18	S 13 DL140	18	S 18 Expansion
17	S 12 DL140	17	S 17 Expansion
16	S 11 DL140	16	S 16 Expansion
15	S 10 DL140	15	S 15 Expansion
14	S 9 DL140	14	S 14 Expansion
13	S 8 DL140	13	S 13 Expansion
12	S 7 DL140	12	S 12 Expansion
11	S 6 DL140	11	S 11 Expansion
10	S 5 DL140	10	S 10 Expansion
9	S 4 DL140	9	S 9 Expansion
8	S 3 DL140	8	S 8 Expansion
7	S 2 DL140	7	S 7 Expansion
6	S 1 DL140	6	S 6 Expansion
5	SW 1 Myricom 9 slot chassis w/Myrinet line cards	5	S 5 Expansion
4		4	S 4 Expansion
3		3	S 3 Expansion
2		2	S 2 Expansion
1		1	S 1 Expansion

Part Number Key

	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

Part Numbers	LC 1000 Series Parts List Myrinet	1 - 32 Nodes (Expandable to 64 Nodes)	33 - 64 Nodes (64 Node Max)
	Factory Integration	**Quantity**	**Quantity**
325733-888	Level 4 Factory Integration	1	2
359578-B21	Configuration Resource Kit	1	1
	DL380G3 Control Node	**Quantity**	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM		
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM		
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM		
	DL140 Compute Nodes	**Quantity**	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM		
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM		
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM		
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM		
257894-006	Myrinet Fiber PCI-X Single Port Adapter Card - M3F-PCIXD-2	#	#
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#	#
	IB / OOB Management Interconnect	**Quantity**	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	1	2
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	1	2
365242-001	Cyclades RS-232 to RJ45 Adapter	#	#
	Cluster Interconnect	**Quantity**	**Quantity**
257896-002	Myrinet 5-Slot Switch Frame, 3U, Max Support 32 Ports - M3-E32		
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64	1	1
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128		
257895-001	Myrinet 8-Port Fiber Switch Card With XBar - M3-SW16-8F *** Round up to the nearest integer.	# / 8	# / 8
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M	1	1
337807-001	Myrinet Front Blanking Panel - M3-BLANK *** Round down to the nearest integer.	8 - (# / 8)	8 - (# / 8)
360363-B21	Myrinet Switch Rail Kit	1	1
	Common Interconnect Parts	**Quantity**	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	2	4
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	3	5
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	# * 2 + 2	# * 2 + 7
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	2	2
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2	2
221692-B22	Fiber Cable, LC-LC, OPTICAL, 5M	#	#
221692-B23	Fiber Cable, LC-LC, OPTICAL, 15M		
	Rack and Power Components	**Quantity**	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	1	2
221546-YYY	TFT5600RKM	1	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 6, then 1. If 6 < # <= 20, then 2. If # > 20, then 3.	If # <= 44, then 4. If 44 < # <= 58, then 5. If # > 58, then 6.
246099-B21	Side Panel 42U, 10K Series All	1	1
246107-B21	Stabilizer 600mm, 10K Series All	1	
248929-B21	Baying Kit, 10K Series All		1
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(39 - #) / 10	(81 - #) / 10

LC 1000 Series 64 Node Myrinet DL140 Cluster Reference Design



U	Rack 1 (R1)	Rack 2 (R2)	Rack 3 (R3)	Rack 4 (R4)
42	S 40 Expansion	S 29 DL140	S 40 Expansion	
41	S 39 Expansion	S 28 DL140	S 39 Expansion	
40	S 38 Expansion	S 27 DL140	S 38 Expansion	
39	S 37 Expansion	S 26 DL140	S 37 Expansion	
38	S 36 DL140	S 25 DL140	S 36 Expansion	
37	S 35 DL140	S 24 DL140	S 35 Expansion	
36	S 34 DL140	S 23 DL140	S 34 Expansion	
35	S 33 DL140	S 22 DL140	S 33 Expansion	
34	S 32 DL140	S 21 DL140	S 32 Expansion	
33	S 31 DL140	S 20 DL140	S 31 Expansion	
32	S 30 DL140	S 19 DL140	S 30 Expansion	
31	S 29 DL140	S 18 DL140	S 29 Expansion	
30	S 28 DL140	S 17 DL380	S 28 Expansion	
29	S 27 DL140		S 27 Expansion	
28	S 26 DL140	S 16 DL140	S 26 Expansion	
27	S 25 DL140	S 15 DL140	S 25 Expansion	
26	S 24 DL140	S 14 DL140	S 24 Expansion	
25	S 23 DL140	S 13 DL140	S 23 Expansion	
24	S 22 DL140	S 12 DL140	S 22 Expansion	
23	S 21 DL140	S 11 DL140	S 21 Expansion	
22	SW 2 Cyclades	SW 3 Cyclades	SW 2 Expansion	SW 2 Expansion
21	SW 1 ProCurve 2848	SW 2 ProCurve 2848	SW 1 Expansion	SW 1 Expansion
20	S 20 DL140	TFT5600	S 20 Expansion	S 20 Expansion
19	S 19 DL140	S 10 DL140	S 19 Expansion	S 19 Expansion
18	S 18 DL140	S 9 DL140	S 18 Expansion	S 18 Expansion
17	S 17 DL140	S 8 DL140	S 17 Expansion	S 17 Expansion
16	S 16 DL140	S 7 DL140	S 16 Expansion	S 16 Expansion
15	S 15 DL140	S 6 DL140	S 15 Expansion	S 15 Expansion
14	S 14 DL140	S 5 DL140	S 14 Expansion	S 14 Expansion
13	S 13 DL140	S 4 DL140	S 13 Expansion	S 13 Expansion
12	S 12 DL140	S 3 DL140	S 12 Expansion	S 12 Expansion
11	S 11 DL140	S 2 DL140	S 11 Expansion	S 11 Expansion
10	S 10 DL140	S 1 DL140	S 10 Expansion	S 10 Expansion
9	S 9 DL140	SW 1 Myricom 17 slot chassis w/Myrinet line cards	S 9 Expansion	S 9 Expansion
8	S 8 DL140		S 8 Expansion	S 8 Expansion
7	S 7 DL140		S 7 Expansion	S 7 Expansion
6	S 6 DL140		S 6 Expansion	S 6 Expansion
5	S 5 DL140		S 5 Expansion	S 5 Expansion
4	S 4 DL140		S 4 Expansion	S 4 Expansion
3	S 3 DL140		S 3 Expansion	S 3 Expansion
2	S 2 DL140		S 2 Expansion	S 2 Expansion
1	S 1 DL140		S 1 Expansion	S 1 Expansion

LC 1000 Series 64 Node Myrinet DL140 Cluster Reference Design

Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Part Numbers	LC 1000 Series Parts List Myrinet	29 - 68 Nodes (Expandable to 128 Nodes)	69 - 108 Nodes (Expandable to 128 Nodes)	109 - 128 Nodes (128 Node Max)
	Factory Integration	**Quantity**	**Quantity**	**Quantity**
325733-888	Level 4 Factory Integration	2	3	4
359578-B21	Configuration Resource Kit	1	1	1
	DL380G3 Control Node	**Quantity**	**Quantity**	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1	1	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM			
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM			
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM			
	DL140 Compute Nodes	**Quantity**	**Quantity**	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#	#	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM			
257894-006	Myrinet Fiber PCI-X Single Port Adapter Card - M3F-PCIXD-2	#	#	#
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#	#	#
	IB / OOB Management Interconnect	**Quantity**	**Quantity**	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	2	3	4
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	2	3	4
365242-001	Cyclades RS-232 to RJ45 Adapter	#	#	#
	Cluster Interconnect	**Quantity**	**Quantity**	**Quantity**
257896-002	Myrinet 5-Slot Switch Frame, 3U, Max Support 32 Ports - M3-E32			
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64			
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128	1	1	1
257895-001	Myrinet 8-Port Fiber Switch Card With XBar - M3-SW16-8F *** Round up to the nearest integer.	# / 8	# / 8	# / 8
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M	1	1	1
337807-001	Myrinet Front Blanking Panel - M3-BLANK *** Round down to the nearest integer.	16 - (# / 8)	16 - (# / 8)	16 - (# / 8)
360363-B21	Myrinet Switch Rail Kit	1	1	1
	Common Interconnect Parts	**Quantity**	**Quantity**	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	4	6	8
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	5	7	9
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	# * 2 + 7	# * 2 + 12	# * 2 + 13
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	2	2	2
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2	2	6
221692-B22	Fiber Cable, LC-LC, OPTICAL, 5M	#	#	If # < 120, then # else 120.
221692-B23	Fiber Cable, LC-LC, OPTICAL, 15M			If # < 120, then 0 else # - 120.
	Rack and Power Components	**Quantity**	**Quantity**	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	2	3	4
221546-YYY	TFT5600RKM	1	1	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1	1	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 40, then 4. If 40 < # <= 54, then 5. If # > 54, then 6.	If # <= 80, then 7. If 80 < # <= 94, then 8. If # > 94, then 9.	If # <= 120, then 10 else 11.
246099-B21	Side Panel 42U, 10K Series All	1	1	1
246107-B21	Stabilizer 600mm, 10K Series All			
248929-B21	Baying Kit, 10K Series All	1	2	3
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(81 - #) / 10	(123 - #) / 10	(165 - #) / 10

Part Number Key

	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

LC 1000 Series Myrinet DL140 Cluster Order Worksheet

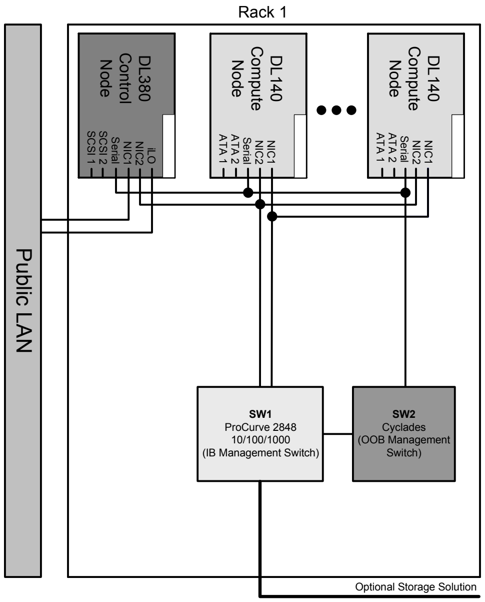
Note: Please make multiple copies for future use.

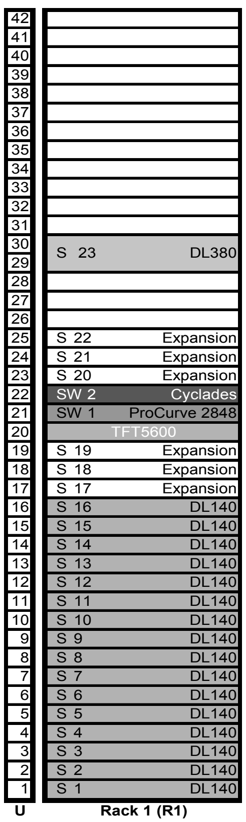
Part Numbers	LC 1000 Series Parts List Myrinet	Order
	Factory Integration	**Quantity**
325733-888	Level 4 Factory Integration	
359578-B21	Configuration Resource Kit	
	DL380G3 Control Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
	DL140 Compute Nodes	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM	
257894-006	Myrinet Fiber PCI-X Single Port Adapter Card - M3F-PCIXD-2	
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	
	IB / OOB Management Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	
365242-001	Cyclades RS-232 to RJ45 Adapter	
	Cluster Interconnect	**Quantity**
257896-002	Myrinet 5-Slot Switch Frame, 3U, Max Support 32 Ports - M3-E32	
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64	
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128	
257895-001	Myrinet 8-Port Fiber Switch Card With XBar - M3-SW16-8F	
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M	
337807-001	Myrinet Front Blanking Panel - M3-BLANK	
360363-B21	Myrinet Switch Rail Kit	
	Common Interconnect Parts	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack	
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack	
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack	
221692-B22	Fiber Cable, LC-LC, OPTICAL, 5M	
221692-B23	Fiber Cable, LC-LC, OPTICAL, 15M	
	Rack and Power Components	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	
221546-YYY	TFT5600RKM	
169989-001	Keyboard/Mouse/Monitor Extension Cable	
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	
246099-B21	Side Panel 42U, 10K Series All	
246107-B21	Stabilizer 600mm, 10K Series All	
248929-B21	Baying Kit, 10K Series All	
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All	

Part Number Key				
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

LC 1000 Series 16 Node GigE DL140 Cluster Reference Design

GigE (expandable to 22 nodes)





Part Number Key

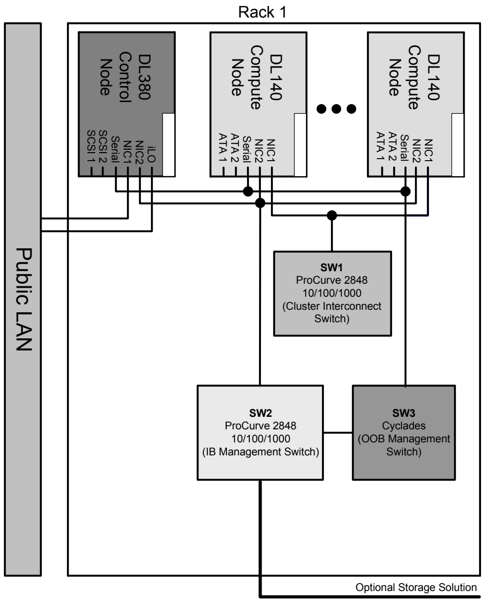
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Part Numbers	LC 1000 Series Parts List GigE	1 - 22 Nodes (22 Node Max)
	Factory Integration	**Quantity**
325733-888	Level 4 Factory Integration	1
359578-B21	Configuration Resource Kit	1
	DL380G3 Control Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
	DL140 Compute Nodes	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM	
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#
	IB / OOB Management Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	1
365242-001	Cyclades RS-232 to RJ45 Adapter	#
	Cluster Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	1
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64	
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128	
356921-B21	Myrinet 8-Port GigE Switch Card With XBar - M3-SW16-8E *** Round up to the nearest integer.	
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M	
337807-001	Myrinet Front Blanking Panel - M3-BLANK *** Round down to the nearest integer.	
360363-B21	Myrinet Switch Rail Kit	
	Common Interconnect Parts	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	2
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	2
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	# * 3 + 1
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	2
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2
	Rack and Power Components	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	1
221546-YYY	TFT5600RKM	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 9, then 1 else 2
246099-B21	Side Panel 42U, 10K Series All	1
246107-B21	Stabilizer 600mm, 10K Series All	1
248929-B21	Baying Kit, 10K Series All	
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(39 - #) / 10

LC 1000 Series 24 Node GigE DL140 Cluster Reference Design

GigE (expandable to 36 nodes)



U	Slot	Equipment
42	S 37	Expansion
41	S 36	Expansion
40	S 35	Expansion
39	S 34	Expansion
38	S 33	Expansion
37	S 32	Expansion
36	S 31	Expansion
35	S 30	Expansion
34	S 29	Expansion
33	S 28	Expansion
32	S 27	Expansion
31	S 26	Expansion
30	S 25	DL380
29		
28	S 24	DL140
27	S 23	DL140
26	S 22	DL140
25	S 21	DL140
24	S 20	DL140
23	S 19	DL140
22	SW 3	Cyclades
21	SW 2	ProCurve 2848
20	TFT5600	
19	SW 1	ProCurve 2848
18	S 18	DL140
17	S 17	DL140
16	S 16	DL140
15	S 15	DL140
14	S 14	DL140
13	S 13	DL140
12	S 12	DL140
11	S 11	DL140
10	S 10	DL140
9	S 9	DL140
8	S 8	DL140
7	S 7	DL140
6	S 6	DL140
5	S 5	DL140
4	S 4	DL140
3	S 3	DL140
2	S 2	DL140
1	S 1	DL140

U — Rack 1 (R1)

Part Number Key

	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

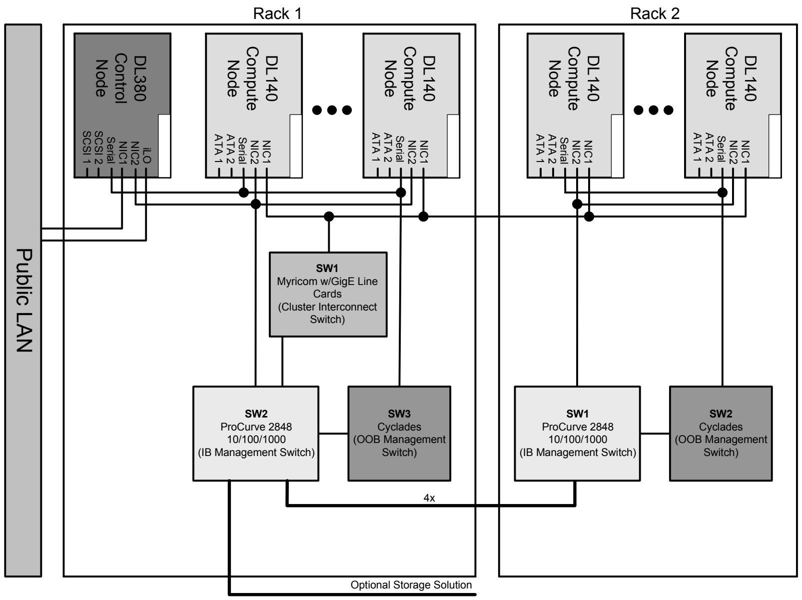
Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Part Numbers	LC 1000 Series Parts List GigE	1 - 36 Nodes (36 Node Max)
	Factory Integration	**Quantity**
325733-888	Level 4 Factory Integration	1
359578-B21	Configuration Resource Kit	1
	DL380G3 Control Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
	DL140 Compute Nodes	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM	
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#
	IB / OOB Management Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	1
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	1
365242-001	Cyclades RS-232 to RJ45 Adapter	#
	Cluster Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	1
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64	
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128	
356921-B21	Myrinet 8-Port GigE Switch Card With XBar - M3-SW16-8E *** Round up to the nearest integer.	
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M	
337807-001	Myrinet Front Blanking Panel - M3-BLANK *** Round down to the nearest integer.	
360363-B21	Myrinet Switch Rail Kit	
	Common Interconnect Parts	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	3
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	3
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	# * 3 + 1
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	2
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2
	Rack and Power Components	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	1
221546-YYY	TFT5600RKM	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 8, then 1. If 8 < # <= 22, then 2. If # > 22, then 3.
246099-B21	Side Panel 42U, 10K Series All	1
246107-B21	Stabilizer 600mm, 10K Series All	1
248929-B21	Baying Kit, 10K Series All	
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(39 - #) / 10

LC 1000 Series 32 Node GigE DL140 Cluster Reference Design

Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

GigE (expandable to 64 nodes)



U	Rack 1 (R1)		U	Rack 2 (R2)	
42	S 33	DL140	42		
41	S 32	DL140	41		
40	S 31	DL140	40		
39	S 30	DL140	39		
38	S 29	DL140	38		
37	S 28	DL140	37		
36	S 27	DL140	36		
35	S 26	DL140	35		
34	S 25	DL140	34	S 32	Expansion
33	S 24	DL140	33	S 31	Expansion
32	S 23	DL140	32	S 30	Expansion
31	S 22	DL140	31	S 29	Expansion
30	S 21	DL380	30	S 28	Expansion
29			29	S 27	Expansion
28	S 20	DL140	28	S 26	Expansion
27	S 19	DL140	27	S 25	Expansion
26	S 18	DL140	26	S 24	Expansion
25	S 17	DL140	25	S 23	Expansion
24	S 16	DL140	24	S 22	Expansion
23	S 15	DL140	23	S 21	Expansion
22	SW 3	Cyclades	22	SW 2	Expansion
21	SW 2	ProCurve 2848	21	SW 1	Expansion
20	TFT5600		20	S 20	Expansion
19	S 14	DL140	19	S 19	Expansion
18	S 13	DL140	18	S 18	Expansion
17	S 12	DL140	17	S 17	Expansion
16	S 11	DL140	16	S 16	Expansion
15	S 10	DL140	15	S 15	Expansion
14	S 9	DL140	14	S 14	Expansion
13	S 8	DL140	13	S 13	Expansion
12	S 7	DL140	12	S 12	Expansion
11	S 6	DL140	11	S 11	Expansion
10	S 5	DL140	10	S 10	Expansion
9	S 4	DL140	9	S 9	Expansion
8	S 3	DL140	8	S 8	Expansion
7	S 2	DL140	7	S 7	Expansion
6	S 1	DL140	6	S 6	Expansion
5	SW 1	Myricom 9 slot chassis w/GigE line cards	5	S 5	Expansion
4			4	S 4	Expansion
3			3	S 3	Expansion
2			2	S 2	Expansion
1			1	S 1	Expansion

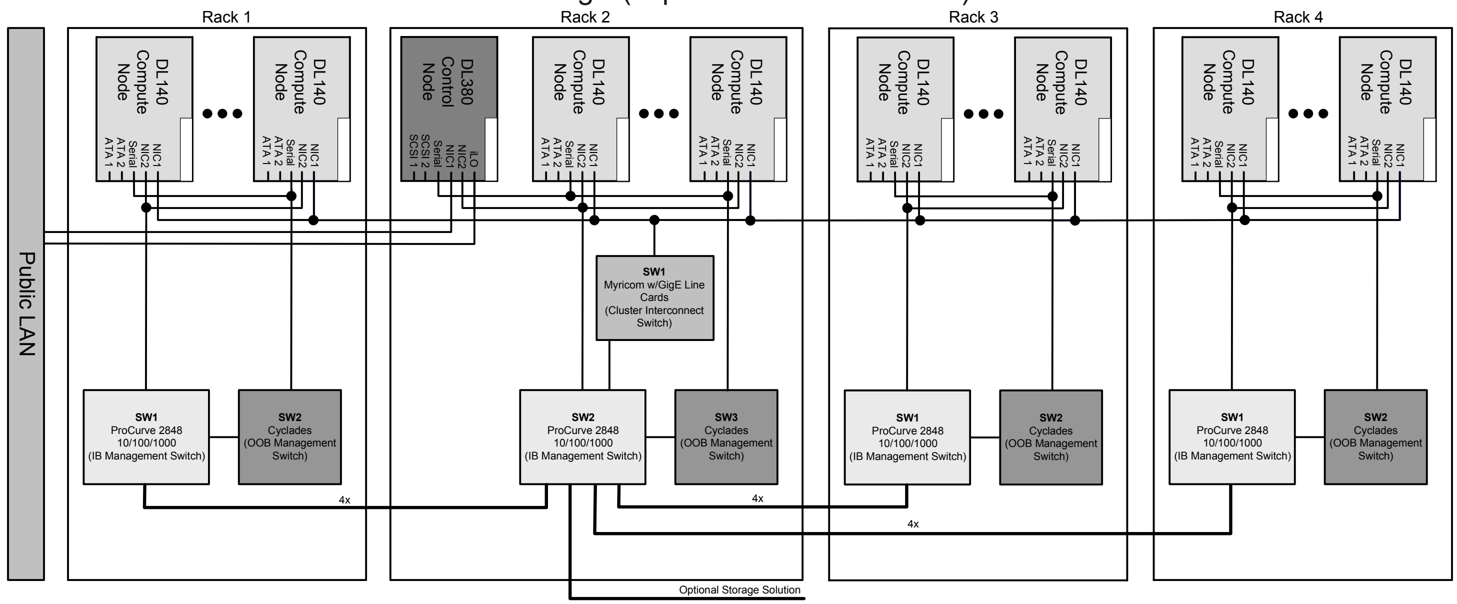
Part Number Key

	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

Part Numbers	LC 1000 Series Parts List GigE	1 - 32 Nodes (Expandable to 64 Nodes)	33 - 64 Nodes (64 Node Max)
	Factory Integration	**Quantity**	**Quantity**
325733-888	Level 4 Factory Integration	1	2
359578-B21	Configuration Resource Kit	1	1
	DL380G3 Control Node	**Quantity**	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM		
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM		
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM		
	DL140 Compute Nodes	**Quantity**	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM		
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM		
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM		
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM		
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#	#
	IB / OOB Management Interconnect	**Quantity**	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	1	2
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	1	2
365242-001	Cyclades RS-232 to RJ45 Adapter	#	#
	Cluster Interconnect	**Quantity**	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U		
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64	1	1
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128		
356921-B21	Myrinet 8-Port GigE Switch Card With XBar - M3-SW16-8E *** Round up to the nearest integer.	# / 8	# / 8
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M	1	1
337807-001	Myrinet Front Blanking Panel - M3-BLANK *** Round down to the nearest integer.	8 - (# / 8)	8 - (# / 8)
360363-B21	Myrinet Switch Rail Kit	1	1
	Common Interconnect Parts	**Quantity**	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	2	4
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	3	5
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	If # < 20, then # * 3 + 1 else # * 2 + 22.	If # < 44, then # * 3 - 5 else # * 2 + 39.
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	If # < 20, then 2 else # - 18.	If # < 44, then 14 else # - 30.
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2	2
	Rack and Power Components	**Quantity**	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	1	2
221546-YYY	TFT5600RKM	1	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 6, then 1. If 8 < # <= 20, then 2. If # > 20, then 3.	If # <= 44, then 4. If 44 < # <= 58, then 5. If # > 58, then 6.
246099-B21	Side Panel 42U, 10K Series All	1	1
246107-B21	Stabilizer 600mm, 10K Series All	1	
248929-B21	Baying Kit, 10K Series All		1
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(39 - #) / 10	(81 - #) / 10

LC 1000 Series 64 Node GigE DL140 Cluster Reference Design

GigE (expandable to 128 nodes)



U	Rack 1 (R1)	Rack 2 (R2)	Rack 3 (R3)	Rack 4 (R4)
42	S 40 Expansion	S 29 DL140	S 40 Expansion	
41	S 39 Expansion	S 28 DL140	S 39 Expansion	
40	S 38 Expansion	S 27 DL140	S 38 Expansion	
39	S 37 Expansion	S 26 DL140	S 37 Expansion	
38	S 36 DL140	S 25 DL140	S 36 Expansion	
37	S 35 DL140	S 24 DL140	S 35 Expansion	
36	S 34 DL140	S 23 DL140	S 34 Expansion	
35	S 33 DL140	S 22 DL140	S 33 Expansion	
34	S 32 DL140	S 21 DL140	S 32 Expansion	
33	S 31 DL140	S 20 DL140	S 31 Expansion	
32	S 30 DL140	S 19 DL140	S 30 Expansion	
31	S 29 DL140	S 18 DL140	S 29 Expansion	
30	S 28 DL140	S 17 DL380	S 28 Expansion	
29	S 27 DL140		S 27 Expansion	
28	S 26 DL140	S 16 DL140	S 26 Expansion	
27	S 25 DL140	S 15 DL140	S 25 Expansion	
26	S 24 DL140	S 14 DL140	S 24 Expansion	
25	S 23 DL140	S 13 DL140	S 23 Expansion	
24	S 22 DL140	S 12 DL140	S 22 Expansion	
23	S 21 DL140	S 11 DL140	S 21 Expansion	
22	SW 2 Cyclades	SW 3 Cyclades	SW 2 Expansion	SW 2 Expansion
21	SW 1 ProCurve 2848	SW 2 ProCurve 2848	SW 1 Expansion	SW 1 Expansion
20	S 20 DL140	TFT5600	S 20 Expansion	S 20 Expansion
19	S 19 DL140	S 10 DL140	S 19 Expansion	S 19 Expansion
18	S 18 DL140	S 9 DL140	S 18 Expansion	S 18 Expansion
17	S 17 DL140	S 8 DL140	S 17 Expansion	S 17 Expansion
16	S 16 DL140	S 7 DL140	S 16 Expansion	S 16 Expansion
15	S 15 DL140	S 6 DL140	S 15 Expansion	S 15 Expansion
14	S 14 DL140	S 5 DL140	S 14 Expansion	S 14 Expansion
13	S 13 DL140	S 4 DL140	S 13 Expansion	S 13 Expansion
12	S 12 DL140	S 3 DL140	S 12 Expansion	S 12 Expansion
11	S 11 DL140	S 2 DL140	S 11 Expansion	S 11 Expansion
10	S 10 DL140	S 1 DL140	S 10 Expansion	S 10 Expansion
9	S 9 DL140	SW 1 Myricom 17 slot chassis w/GigE line cards	S 9 Expansion	S 9 Expansion
8	S 8 DL140		S 8 Expansion	S 8 Expansion
7	S 7 DL140		S 7 Expansion	S 7 Expansion
6	S 6 DL140		S 6 Expansion	S 6 Expansion
5	S 5 DL140		S 5 Expansion	S 5 Expansion
4	S 4 DL140		S 4 Expansion	S 4 Expansion
3	S 3 DL140		S 3 Expansion	S 3 Expansion
2	S 2 DL140		S 2 Expansion	S 2 Expansion
1	S 1 DL140		S 1 Expansion	S 1 Expansion

LC 1000 Series 64 Node GigE DL140 Cluster Reference Design

Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Part Numbers	LC 1000 Series Parts List GigE	29 - 68 Nodes (Expandable to 128 Nodes)	69 - 108 Nodes (Expandable to 128 Nodes)	109 - 128 Nodes (128 Node Max)
	Factory Integration	**Quantity**	**Quantity**	**Quantity**
325733-888	Level 4 Factory Integration	2	3	4
359578-B21	Configuration Resource Kit	1	1	1
	DL380G3 Control Node	**Quantity**	**Quantity**	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1	1	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM			
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM			
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM			
	DL140 Compute Nodes	**Quantity**	**Quantity**	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#	#	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM			
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#	#	#
	IB / OOB Management Interconnect	**Quantity**	**Quantity**	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	2	3	4
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	2	3	4
365242-001	Cyclades RS-232 to RJ45 Adapter	#	#	#
	Cluster Interconnect	**Quantity**	**Quantity**	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U			
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64			
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128	1	1	1
356921-B21	Myrinet 8-Port GigE Switch Card With XBar - M3-SW16-8E *** Round up to the nearest integer.	# / 8	# / 8	# / 8
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M	1	1	1
337807-001	Myrinet Front Blanking Panel - M3-BLANK *** Round down to the nearest integer.	16 - (# / 8)	16 - (# / 8)	16 - (# / 8)
360363-B21	Myrinet Switch Rail Kit	1	1	1
	Common Interconnect Parts	**Quantity**	**Quantity**	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	4	6	8
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	5	7	9
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	If # < 40, then # * 3 - 5 else # * 2 + 35.	If # < 80, then # * 3 - 28 else # * 2 + 52.	# * 2 + 53
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	If # < 40, then 14 else # - 26.	If # < 80, then 42 else # - 38.	If # < 120, then # - 38 else 82.
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2	2	If # < 120, then 6 else # - 114.
	Rack and Power Components	**Quantity**	**Quantity**	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	2	3	4
221546-YYY	TFT5600RKM	1	1	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1	1	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 40, then 4. If 40 < # <= 54, then 5. If # > 54, then 6.	If # <= 80, then 7. If 80 < # <= 94, then 8. If # > 94, then 9.	If # <= 120, then 10 else 11.
246099-B21	Side Panel 42U, 10K Series All	1	1	1
246107-B21	Stabilizer 600mm, 10K Series All			
248929-B21	Baying Kit, 10K Series All	1	2	3
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(81 - #) / 10	(123 - #) / 10	(165 - #) / 10

Part Number Key

	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

LC 1000 Series GigE DL140 Cluster Order Worksheet

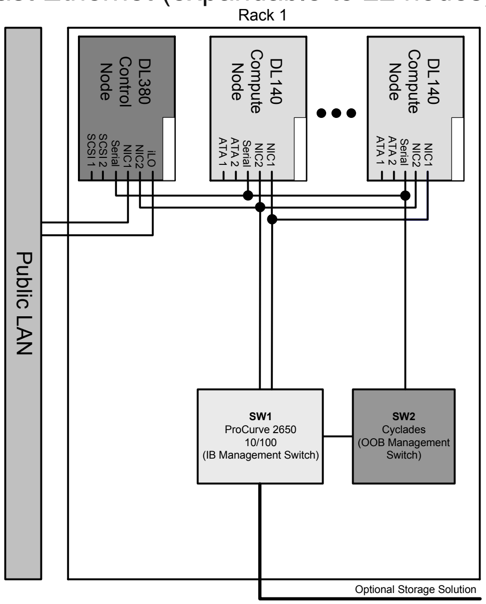
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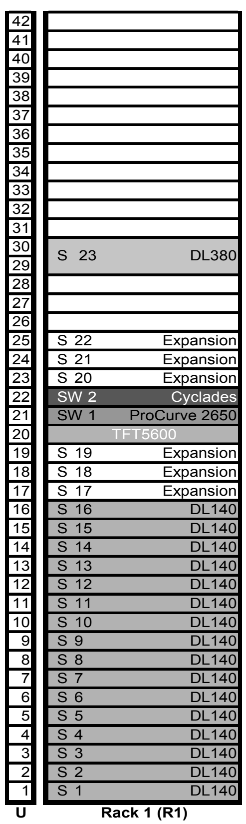
Part Numbers	LC 1000 Series Parts List GigE	Order
	Factory Integration	**Quantity**
325733-888	Level 4 Factory Integration	
359578-B21	Configuration Resource Kit	
	DL380G3 Control Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
	DL140 Compute Nodes	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM	
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	
	IB / OOB Management Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	
365242-001	Cyclades RS-232 to RJ45 Adapter	
	Cluster Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64	
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128	
356921-B21	Myrinet 8-Port GigE Switch Card With XBar - M3-SW16-8E	
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M	
337807-001	Myrinet Front Blanking Panel - M3-BLANK	
360363-B21	Myrinet Switch Rail Kit	
	Common Interconnect Parts	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	
BN26M-03 or	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or	
263474-B22	CAT 5E Cable (US), 6 FT, 8 Per Pack	
BN26M-04 or	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or	
263474-B23	CAT 5E Cable (US), 12 FT, 8 Per Pack	
BN26M-07 or	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or	
263474-B24	CAT 5E Cable (US), 20 FT, 4 Per Pack	
	Rack and Power Components	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	
221546-YYY	TFT5600RKM	
169989-001	Keyboard/Mouse/Monitor Extension Cable	
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	
246099-B21	Side Panel 42U, 10K Series All	
246107-B21	Stabilizer 600mm, 10K Series All	
248929-B21	Baying Kit, 10K Series All	
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All	

Part Number Key				
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

LC 1000 Series 16 Node Fast Ethernet DL140 Cluster Reference Design

Fast Ethernet (expandable to 22 nodes)





Part Number Key

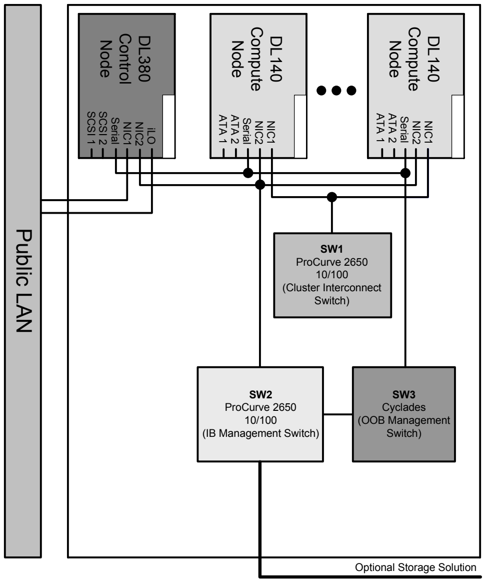
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Part Numbers	LC 1000 Series Parts List Fast Ethernet	1 - 22 Nodes (22 Node Max)
	Factory Integration	**Quantity**
325733-888	Level 4 Factory Integration	1
359578-B21	Configuration Resource Kit	1
	DL380G3 Control Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
	DL140 Compute Nodes	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM	
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#
	IB / OOB Management Interconnect	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U	
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	1
365242-001	Cyclades RS-232 to RJ45 Adapter	#
	Cluster Interconnect	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U	1
J4848A#WWW	Procurve 5372xl - 10/100-TX Switch, 8 Slot Modules, 5U, 3 Slots	
J4820A	Procurve Switch XL 10/100-TX Switch Module, 24 Ports Per Module *** Round up to the nearest integer.	
	Common Interconnect Parts	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	2
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	2
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	# * 3 + 1
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	2
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2
	Rack and Power Components	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	1
221546-YYY	TFT5600RKM	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 9, then 1 else 2
246099-B21	Side Panel 42U, 10K Series All	1
246107-B21	Stabilizer 600mm, 10K Series All	1
248929-B21	Baying Kit, 10K Series All	
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(39 - #) / 10

LC 1000 Series 24 Node Fast Ethernet DL140 Cluster Reference Design

Fast Ethernet (expandable to 36 nodes)



U	Slot	Component
42	S 37	Expansion
41	S 36	Expansion
40	S 35	Expansion
39	S 34	Expansion
38	S 33	Expansion
37	S 32	Expansion
36	S 31	Expansion
35	S 30	Expansion
34	S 29	Expansion
33	S 28	Expansion
32	S 27	Expansion
31	S 26	Expansion
30, 29	S 25	DL380
28	S 24	DL140
27	S 23	DL140
26	S 22	DL140
25	S 21	DL140
24	S 20	DL140
23	S 19	DL140
22	SW 3	Cyclades
21	SW 2	ProCurve 2650
20	TFT5600	
19	SW 1	ProCurve 2650
18	S 18	DL140
17	S 17	DL140
16	S 16	DL140
15	S 15	DL140
14	S 14	DL140
13	S 13	DL140
12	S 12	DL140
11	S 11	DL140
10	S 10	DL140
9	S 9	DL140
8	S 8	DL140
7	S 7	DL140
6	S 6	DL140
5	S 5	DL140
4	S 4	DL140
3	S 3	DL140
2	S 2	DL140
1	S 1	DL140

U — Rack 1 (R1)

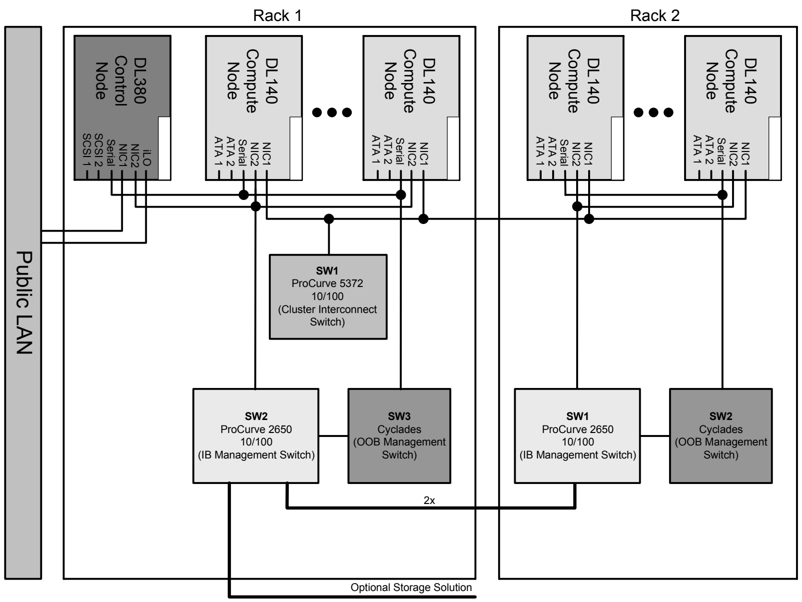
Part Number Key				
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Part Numbers	LC 1000 Series Parts List Fast Ethernet	1 - 36 Nodes (36 Node Max)
	Factory Integration	**Quantity**
325733-888	Level 4 Factory Integration	1
359578-B21	Configuration Resource Kit	1
	DL380G3 Control Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
	DL140 Compute Nodes	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM	
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#
	IB / OOB Management Interconnect	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U	1
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	1
365242-001	Cyclades RS-232 to RJ45 Adapter	#
	Cluster Interconnect	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U	1
J4848A#WWW	Procurve 5372xl - 10/100-TX Switch, 8 Slot Modules, 5U, 3 Slots	
J4820A	Procurve Switch XL 10/100-TX Switch Module, 24 Ports Per Module *** Round up to the nearest integer.	
	Common Interconnect Parts	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	3
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	3
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	# * 3 + 1
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	2
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2
	Rack and Power Components	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	1
221546-YYY	TFT5600RKM	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 8, then 1. If 8 < # <= 22, then 2. If # > 22, then 3.
246099-B21	Side Panel 42U, 10K Series All	1
246107-B21	Stabilizer 600mm, 10K Series All	1
248929-B21	Baying Kit, 10K Series All	
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(39 - #) / 10

LC 1000 Series 32 Node Fast Ethernet DL140 Cluster Reference Design

Fast Ethernet (expandable to 72 nodes)



U	Rack 1 (R1)	
42	S 33	DL140
41	S 32	DL140
40	S 31	DL140
39	S 30	DL140
38	S 29	DL140
37	S 28	DL140
36	S 27	DL140
35	S 26	DL140
34	S 25	DL140
33	S 24	DL140
32	S 23	DL140
31	S 22	DL140
30–29	S 21	DL380
28	S 20	DL140
27	S 19	DL140
26	S 18	DL140
25	S 17	DL140
24	S 16	DL140
23	S 15	DL140
22	SW 3	Cyclades
21	SW 2	ProCurve 2650
20	TFT5600	
19	S 14	DL140
18	S 13	DL140
17	S 12	DL140
16	S 11	DL140
15	S 10	DL140
14	S 9	DL140
13	S 8	DL140
12	S 7	DL140
11	S 6	DL140
10	S 5	DL140
9	S 4	DL140
8	S 3	DL140
7	S 2	DL140
6	S 1	DL140
5–1	SW 1	ProCurve 5372

U	Rack 2 (R2)	
42	S 40	Expansion
41	S 39	Expansion
40	S 38	Expansion
39	S 37	Expansion
38	S 36	Expansion
37	S 35	Expansion
36	S 34	Expansion
35	S 33	Expansion
34	S 32	Expansion
33	S 31	Expansion
32	S 30	Expansion
31	S 29	Expansion
30	S 28	Expansion
29	S 27	Expansion
28	S 26	Expansion
27	S 25	Expansion
26	S 24	Expansion
25	S 23	Expansion
24	S 22	Expansion
23	S 21	Expansion
22	SW 2	Expansion
21	SW 1	Expansion
20	S 20	Expansion
19	S 19	Expansion
18	S 18	Expansion
17	S 17	Expansion
16	S 16	Expansion
15	S 15	Expansion
14	S 14	Expansion
13	S 13	Expansion
12	S 12	Expansion
11	S 11	Expansion
10	S 10	Expansion
9	S 9	Expansion
8	S 8	Expansion
7	S 7	Expansion
6	S 6	Expansion
5	S 5	Expansion
4	S 4	Expansion
3	S 3	Expansion
2	S 2	Expansion
1	S 1	Expansion

Part Number Key				
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

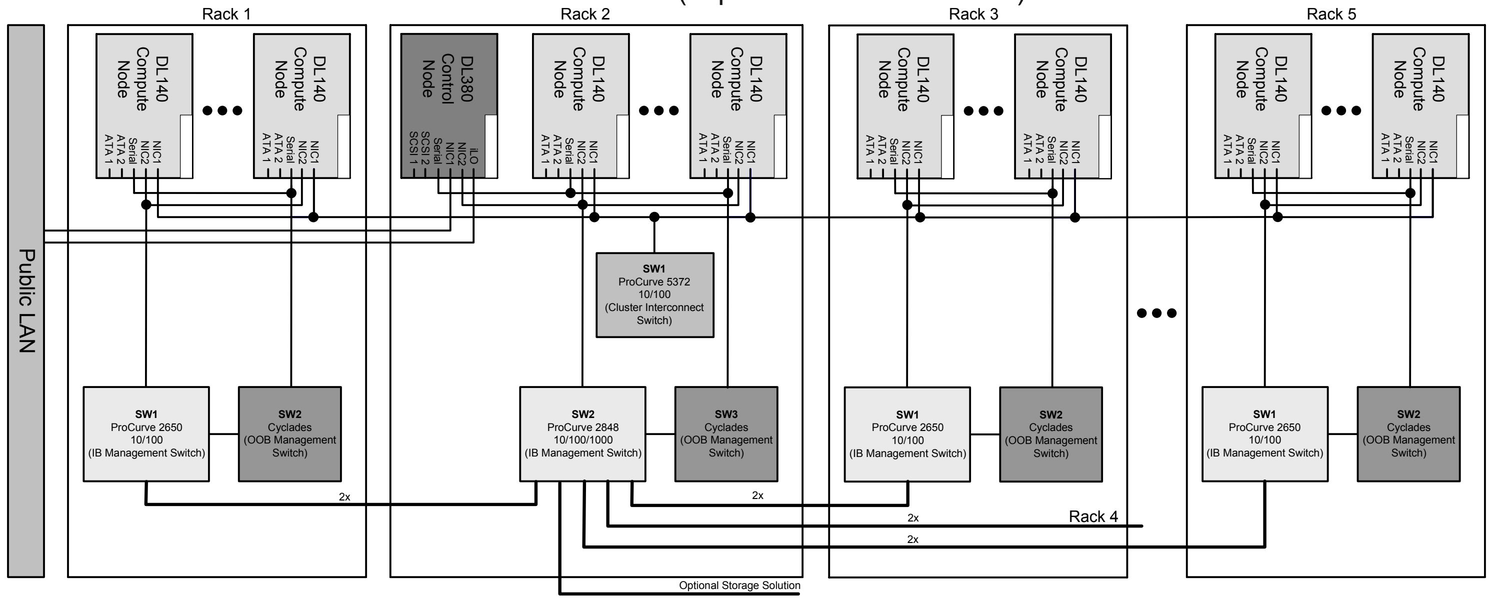
Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Part Numbers	LC 1000 Series Parts List Fast Ethernet	1 - 32 Nodes (Expandable to 72 Nodes)	33 - 72 Nodes (72 Node Max)
	Factory Integration	**Quantity**	**Quantity**
325733-888	Level 4 Factory Integration	1	2
359578-B21	Configuration Resource Kit	1	1
	DL380G3 Control Node	**Quantity**	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM		
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM		
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM		
	DL140 Compute Nodes	**Quantity**	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM		
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM		
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM		
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM		
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#	#
	IB / OOB Management Interconnect	**Quantity**	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U	1	2
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U		
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	1	2
365242-001	Cyclades RS-232 to RJ45 Adapter	#	#
	Cluster Interconnect	**Quantity**	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U		
J4848A#WWW	Procurve 5372xl - 10/100-TX Switch, 8 Slot Modules, 5U, 3 Slots	1	1
J4820A	Procurve Switch XL 10/100-TX Switch Module, 24 Ports Per Module *** Round up to the nearest integer.		
	Common Interconnect Parts	**Quantity**	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	2	4
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	3	5
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	If # < 20, then # * 3 + 1 else # * 2 + 21.	If # < 44, then # * 3 - 8 else # * 2 + 36.
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	If # < 20, then 2 else # - 18.	If # < 44, then 14 else # - 30.
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2	2
	Rack and Power Components	**Quantity**	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	1	2
221546-YYY	TFT5600RKM	1	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 6, then 1. If 8 < # <= 20, then 2. If # > 20, then 3.	If # <= 44, then 4. If 44 < # <= 58, then 5. If # > 58, then 6.
246099-B21	Side Panel 42U, 10K Series All	1	1
246107-B21	Stabilizer 600mm, 10K Series All	1	
248929-B21	Baying Kit, 10K Series All		1
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(39 - #) / 10	(81 - #) / 10

359449-001

LC 1000 Series 64 Node Fast Ethernet DL140 Cluster Reference Design

Fast Ethernet (expandable to 192 nodes)



U	Rack 1 (R1)	Rack 2 (R2)	Rack 3 (R3)	Rack 4 (R4)	Rack 5 (R5)
42	S 40 Expansion	S 33 DL140	S 40 Expansion	S 40 Expansion	S 40 Expansion
41	S 39 Expansion	S 32 DL140	S 39 Expansion	S 39 Expansion	S 39 Expansion
40	S 38 Expansion	S 31 DL140	S 38 Expansion	S 38 Expansion	S 38 Expansion
39	S 37 Expansion	S 30 DL140	S 37 Expansion	S 37 Expansion	S 37 Expansion
38	S 36 Expansion	S 29 DL140	S 36 Expansion	S 36 Expansion	S 36 Expansion
37	S 35 Expansion	S 28 DL140	S 35 Expansion	S 35 Expansion	S 35 Expansion
36	S 34 Expansion	S 27 DL140	S 34 Expansion	S 34 Expansion	S 34 Expansion
35	S 33 Expansion	S 26 DL140	S 33 Expansion	S 33 Expansion	S 33 Expansion
34	S 32 DL140	S 25 DL140	S 32 Expansion	S 32 Expansion	S 32 Expansion
33	S 31 DL140	S 24 DL140	S 31 Expansion	S 31 Expansion	S 31 Expansion
32	S 30 DL140	S 23 DL140	S 30 Expansion	S 30 Expansion	S 30 Expansion
31	S 29 DL140	S 22 DL140	S 29 Expansion	S 29 Expansion	S 29 Expansion
30	S 28 DL140	S 21 DL380	S 28 Expansion	S 28 Expansion	S 28 Expansion
29	S 27 DL140		S 27 Expansion	S 27 Expansion	S 27 Expansion
28	S 26 DL140	S 20 DL140	S 26 Expansion	S 26 Expansion	S 26 Expansion
27	S 25 DL140	S 19 DL140	S 25 Expansion	S 25 Expansion	S 25 Expansion
26	S 24 DL140	S 18 DL140	S 24 Expansion	S 24 Expansion	S 24 Expansion
25	S 23 DL140	S 17 DL140	S 23 Expansion	S 23 Expansion	S 23 Expansion
24	S 22 DL140	S 16 DL140	S 22 Expansion	S 22 Expansion	S 22 Expansion
23	S 21 DL140	S 15 DL140	S 21 Expansion	S 21 Expansion	S 21 Expansion
22	SW 2 Cyclades	SW 3 Cyclades	SW 2 Expansion	SW 2 Expansion	SW 2 Expansion
21	SW 1 ProCurve 2650	SW 2 ProCurve 2848	SW 1 Expansion	SW 1 Expansion	SW 1 Expansion
20	S 20 DL140	TFT5600	S 20 Expansion	S 20 Expansion	S 20 Expansion
19	S 19 DL140	S 14 DL140	S 19 Expansion	S 19 Expansion	S 19 Expansion
18	S 18 DL140	S 13 DL140	S 18 Expansion	S 18 Expansion	S 18 Expansion
17	S 17 DL140	S 12 DL140	S 17 Expansion	S 17 Expansion	S 17 Expansion
16	S 16 DL140	S 11 DL140	S 16 Expansion	S 16 Expansion	S 16 Expansion
15	S 15 DL140	S 10 DL140	S 15 Expansion	S 15 Expansion	S 15 Expansion
14	S 14 DL140	S 9 DL140	S 14 Expansion	S 14 Expansion	S 14 Expansion
13	S 13 DL140	S 8 DL140	S 13 Expansion	S 13 Expansion	S 13 Expansion
12	S 12 DL140	S 7 DL140	S 12 Expansion	S 12 Expansion	S 12 Expansion
11	S 11 DL140	S 6 DL140	S 11 Expansion	S 11 Expansion	S 11 Expansion
10	S 10 DL140	S 5 DL140	S 10 Expansion	S 10 Expansion	S 10 Expansion
9	S 9 DL140	S 4 DL140	S 9 Expansion	S 9 Expansion	S 9 Expansion
8	S 8 DL140	S 3 DL140	S 8 Expansion	S 8 Expansion	S 8 Expansion
7	S 7 DL140	S 2 DL140	S 7 Expansion	S 7 Expansion	S 7 Expansion
6	S 6 DL140	S 1 DL140	S 6 Expansion	S 6 Expansion	S 6 Expansion
5	S 5 DL140	SW 1 ProCurve 5372	S 5 Expansion	S 5 Expansion	S 5 Expansion
4	S 4 DL140		S 4 Expansion	S 4 Expansion	S 4 Expansion
3	S 3 DL140		S 3 Expansion	S 3 Expansion	S 3 Expansion
2	S 2 DL140		S 2 Expansion	S 2 Expansion	S 2 Expansion
1	S 1 DL140		S 1 Expansion	S 1 Expansion	S 1 Expansion

LC 1000 Series 64 Node Fast Ethernet DL140 Cluster Reference Design

Notes: 1. # represents the number of compute nodes.
2. Please refer to the server options table for adding processors, memory, disks, network adapters, ...

Part Numbers	LC 1000 Series Parts List Fast Ethernet	33 - 72 Nodes (Expandable to 192 Nodes)	73 - 112 Nodes (Expandable to 192 Nodes)	113 - 152 Nodes (Expandable to 192 Nodes)	153 - 192 Nodes (Expandable to 192 Nodes)
	Factory Integration	**Quantity**	**Quantity**	**Quantity**	**Quantity**
325733-888	Level 4 Factory Integration	2	3	4	5
359578-B21	Configuration Resource Kit	1	1	1	1
	DL380G3 Control Node	**Quantity**	**Quantity**	**Quantity**	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1	1	1	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM				
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM				
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM				
	DL140 Compute Nodes	**Quantity**	**Quantity**	**Quantity**	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	#	#	#	#
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM				
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM				
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM				
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM				
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	#	#	#	#
	IB / OOB Management Interconnect	**Quantity**	**Quantity**	**Quantity**	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U	1	2	3	4
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	1	1	1	1
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	2	3	4	5
365242-001	Cyclades RS-232 to RJ45 Adapter	#	#	#	#
	Cluster Interconnect	**Quantity**	**Quantity**	**Quantity**	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U				
J4848A#WWW	Procurve 5372xl - 10/100-TX Switch, 8 Slot Modules, 5U, 3 Slots	1	1	1	1
J4820A	Procurve Switch XL 10/100-TX Switch Module, 24 Ports Per Module *** Round up to the nearest integer.		# / 24 - 3	# / 24 - 3	# / 24 - 3
	Common Interconnect Parts	**Quantity**	**Quantity**	**Quantity**	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	4	6	8	10
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	5	7	9	11
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	If # < 44, then # * 3 - 8 else # * 2 + 36.	If # < 84, then # * 3 - 33 else # * 2 + 51.	# * 2 + 52	# * 2 + 53
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	If # < 44, then 14 else # - 30.	If # < 84, then 42 else # - 42 .	If # < 124, then # - 42 else 82.	82
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 4 and round up to the nearest integer.	2	2	If # < 124, then 4 else # - 120.	# - 118
	Rack and Power Components	**Quantity**	**Quantity**	**Quantity**	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	2	3	4	5
221546-YYY	TFT5600RKM	1	1	1	1
169989-001	Keyboard/Mouse/Monitor Extension Cable	1	1	1	1
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	If # <= 44, then 4. If 44 < # <= 58, then 5. If # > 58, then 6.	If # <= 84, then 7. If 84 < # <= 98, then 8. If # > 98, then 9.	If # <= 124, then 10. If 124 < # <= 138, then 11. If # > 138, then 12.	If # <= 164, then 13. If 164 < # <= 178, then 14. If # > 178, then 15.
246099-B21	Side Panel 42U, 10K Series All	1	1	1	1
246107-B21	Stabilizer 600mm, 10K Series All				
248929-B21	Baying Kit, 10K Series All	1	2	3	4
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All *** Round up to the nearest integer.	(81 - #) / 10	(123 - #) / 10	(165 - #) / 10	(207 - #) / 10

Part Number Key

	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

LC 1000 Series Fast Ethernet DL140 Cluster Order Worksheet

Note: Please make multiple copies for future use.

Part Numbers	LC 1000 Series Parts List Fast Ethernet	Order
	Factory Integration	**Quantity**
325733-888	Level 4 Factory Integration	
359578-B21	Configuration Resource Kit	
	DL380G3 Control Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
	DL140 Compute Nodes	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM	
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM	
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM	
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches	
	IB / OOB Management Interconnect	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U	
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190	
365242-001	Cyclades RS-232 to RJ45 Adapter	
	Cluster Interconnect	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U	
J4848A#WWW	Procurve 5372xl - 10/100-TX Switch, 8 Slot Modules, 5U, 3 Slots Filled	
J4820A	Procurve Switch XL 10/100-TX Switch Module, 24 Ports Per Module	
	Common Interconnect Parts	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack	
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack	
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack	
	Rack and Power Components	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	
221546-YYY	TFT5600RKM	
169989-001	Keyboard/Mouse/Monitor Extension Cable	
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	
246099-B21	Side Panel 42U, 10K Series All	
246107-B21	Stabilizer 600mm, 10K Series All	
248929-B21	Baying Kit, 10K Series All	
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All	

Part Number Key				
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

LC 1000 Series DL380 and DL140 Options

Note: Please make multiple copies for future use.

Part Numbers	LC 1000 Series Parts List Options	Order
	DL380G3 Control Node	**Quantity**
293048-B21	Fan Kit	
313054-B21	Hot Plug Redundant Power Supply	
333714-B21	1P-3.2GHz 1MB Cache 533MHz FSB Processor Option Kit	
333713-B21	1P-3.06GHz 1MB Cache 533MHz FSB Processor Option Kit	
257916-B21	1P-3.06GHz 512KB Cache 533MHz FSB Processor Option Kit	
257915-B21	1P-2.8GHz 512KB Cache 400MHz FSB Processor Option Kit	
300678-B21	512MB PC2100 Memory Kit (2X256MB)	
300679-B21	1024MB PC2100 Memory Kit (2X512MB)	
300680-B21	2048MB PC2100 Memory Kit (2X1024MB)	
300682-B21	4096MB PC2100 Memory Kit (2X2048MB)	
286713-B22	36.4GB 10K HDD U320	
286714-B22	72.8GB 10K HDD U320	
286716-B22	146.8GB 10K HDD U320	
286775-B22	18.2GB 15K HDD U320	
286776-B22	36.4GB 15K HDD U320	
286778-B22	72.8GB 15K HDD U320	
313881-B21	NC7170 Dual Port 1000T Gigabit Server Adapter	
290563-B21	NC7771 PCI-X 10/100/1000-T Server Adapter	
263825-B21	iLO Advanced Pack All	
	DL140 Compute Nodes	**Quantity**
349043-B21	1P-2.4GHz 512KB Cache 533MHz FSB Processor Option Kit	
359047-B21	1P-3.06GHz 512KB Cache 533MHz FSB Processor Option Kit	
351109-B21	1GB PC2100 Memory Kit (1X1GB)	
351108-B21	512MB PC2100 Memory Kit (1X512MB)	
349046-B21	24x CD-ROM Option Kit	
278424-B21	80GB 7.2K HDD ATA/100	
290563-B21	NC7771 PCI-X 10/100/1000-T Server Adapter	

LC 1000 Series Software Options

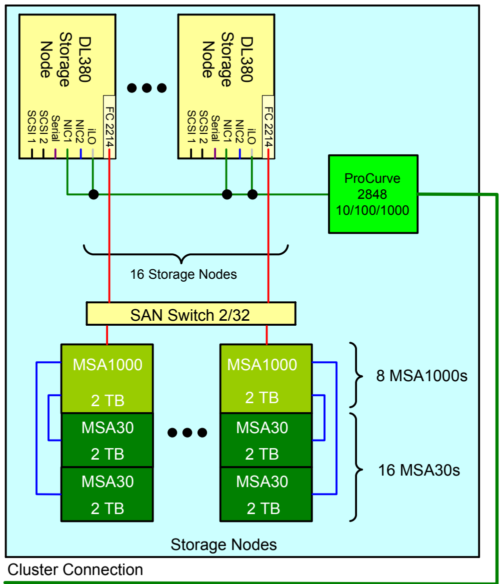
Note: 1. # represents the number of compute nodes.
2. Please make multiple copies for future use.

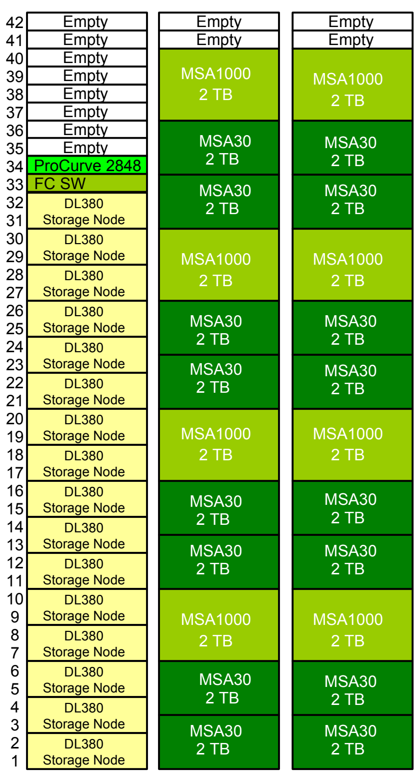
Part Numbers	LC 1000 Series Software Options	Order		
	Red Hat - 1 Year	**Control**	**Compute**	**Quantity**
365979-002	Red Hat Enterprise Linux ES 3 1-2 CPU, 1 Year (Americas)	1		
351374-B21	Red Hat Enterprise Linux ES 3 1-2 CPU, 1 Year (EMEA)			
365985-002	Red Hat Enterprise Linux AS 3 1-2 CPU, 1 Year (Americas)			
351372-B21	Red Hat Enterprise Linux AS 3 1-2 CPU, 1 Year (EMEA)			
366313-B21	Red Hat WS 3 / High Performance Computing (32-bit), Base 8 Pack and Media, 1 Year		1	
359971-B21	Red Hat WS 3 / High Performance Computing (32-bit), Additional 8 Pack, 1 Year *** Round up to the nearest integer.		(# - 8) / 8	
	Red Hat - 3 Year	**Control**	**Compute**	**Quantity**
365980-002	Red Hat Enterprise Linux ES 3 1-2 CPU, 3 Year (Americas)	1		
351375-B21	Red Hat Enterprise Linux ES 3 1-2 CPU, 3 Year (EMEA)			
365986-002	Red Hat Enterprise Linux AS 3 1-2 CPU, 3 Year (Americas)			
351373-B21	Red Hat Enterprise Linux AS 3 1-2 CPU, 3 Year (EMEA)			
366316-B21	Red Hat WS 3 / High Performance Computing (32-bit), Base 8 Pack and Media, 3 Year		1	
359972-B21	Red Hat WS 3 / High Performance Computing (32-bit), Additional 8 Pack, 3 Year *** Round up to the nearest integer.		(# - 8) / 8	
	SUSE - 1 Year	**Control**	**Compute**	**Quantity**
344074-B21	SLES 8 1-2 CPU, 1 Year	1		
366319-B21	SLES 8 / High Performance Computing (32-bit), Base 8 Pack and Media, 1 Year		1	
359973-B21	SLES 8 / High Performance Computing (32-bit), Additional 8 Pack, 1 Year *** Round up to the nearest integer.		(# - 8) / 8	
	SUSE - 3 Year	**Control**	**Compute**	**Quantity**
344075-B21	SLES 8 1-2 CPU, 3 Year	1		
366322-B21	SLES 8 / High Performance Computing (32-bit), Base 8 Pack and Media, 3 Year		1	
359974-B21	SLES 8 / High Performance Computing (32-bit), Additional 8 Pack, 3 Year *** Round up to the nearest integer.		(# - 8) / 8	
	Microsoft Windows	**Control**	**Compute**	**Quantity**
339105-B21	Microsoft Windows Server 2003, Standard Edition, 5 Client Access Licenses	1		
339233-B21	Microsoft Windows Server 2003, Enterprise Edition, 25 Client Access Licenses			
354663-B21	Microsoft Windows Server 2003, Standard Edition for High Performance Computing, Media and 16-License Pack *** Round up to the nearest integer.		# / 16	

Note: Scali Manage/Connect is supported on Linux operating systems only.

	Scali	**Control**	**Compute**	**Quantity**
359960-B21	Scali Manage/Connect for TCP/IP, Media and Contol Node License	1		
359962-B21	Scali Manage/Connect for Myrinet, Media and Contol Node License			
366382-B21	Scali Manage/Connect, Compute Node License		#	

LC 1000 Series Fibre Channel GFS (16 node - 48 TB)



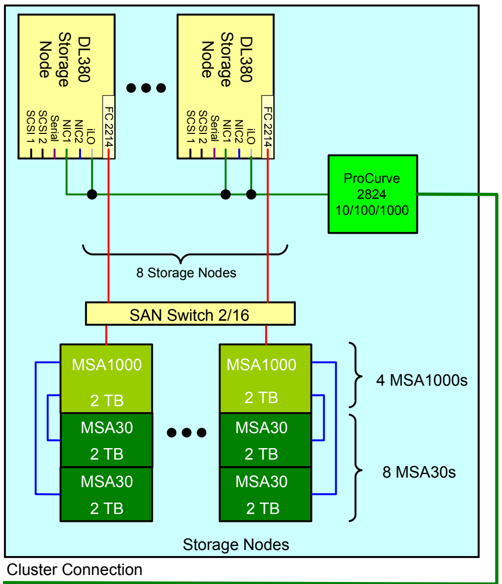


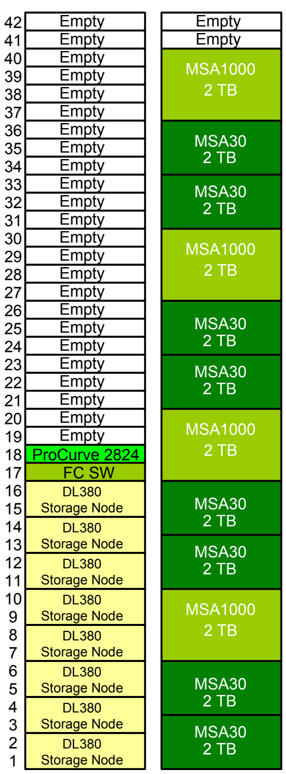
Note: Please refer to the storage subsystem options table for adding processors, memory, disks, network adapters, rack and power, ...

Part Numbers	Storage Subsystem Parts List	FC GFS 16 node - 48 TB
	DL380G3 Storage Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	16
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
281541-B21	FCA2214 (FC HBA)	16
273914-B21	SA 6404 (SCSI HBA)	
	Storage Components	**Quantity**
302969-B21	MSA30 SB w1 12' VHCDI cable	16
201724-B21	MSA500 w/2 6' VHDCI cables & 128MB cache	
201723-B22	MSA1000 w/256MB cache, I/O module & 1 SFP	8
	Management/Storage Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	1
J4903A#WWW	ProCurve 2824 - 10/100/1000-T Switch, 24 Ports, 1U	
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	1
288247-B21	MSA1000 SAN Switch 2/8 (Ships with 4 SFPs)	
322118-B21	SAN Switch 2/16	
240603-B21	SAN Switch 2/32	1
221470-B21	2 Gb SFP SW Transceiver	48
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	2
221692-B21	Fiber Cable, LC-LC, Optical, 2M	8
221692-B22	Fiber Cable, LC-LC, Optical, 5M	8
221692-B23	Fiber Cable, LC-LC, Optical, 15M	8
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	16
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	16
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	4

Part Number Key		
	WWW	XXX
US	ABA	001
EMEA	ABB	421

LC 1000 Series Fibre Channel GFS (8 node - 24 TB)



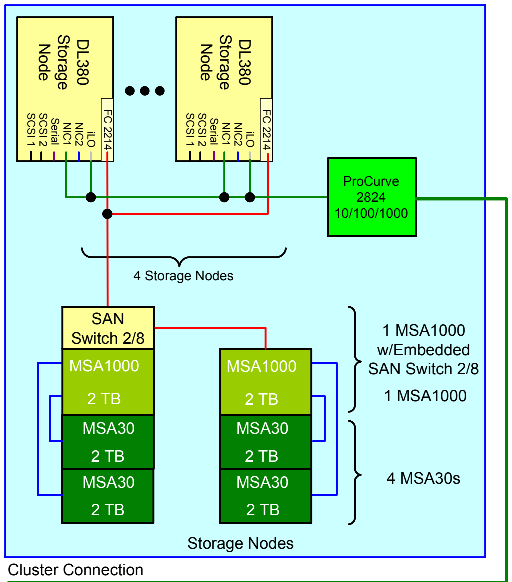


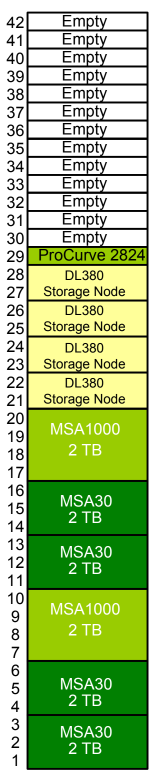
Note: Please refer to the storage subsystem options table for adding processors, memory, disks, network adapters, rack and power, ...

Part Numbers	Storage Subsystem Parts List	FC GFS 8 node - 24TB
	DL380G3 Storage Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	8
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
281541-B21	FCA2214 (FC HBA)	8
273914-B21	SA 6404 (SCSI HBA)	
	Storage Components	**Quantity**
302969-B21	MSA30 SB w1 12' VHCDI cable	8
201724-B21	MSA500 w/2 6' VHDCI cables & 128MB cache	
201723-B22	MSA1000 w/256MB cache, I/O module & 1 SFP	4
	Management/Storage Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
J4903A#WWW	ProCurve 2824 - 10/100/1000-T Switch, 24 Ports, 1U	1
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	1
288247-B21	MSA1000 SAN Switch 2/8 (Ships with 4 SFPs)	
322118-B21	SAN Switch 2/16	1
240603-B21	SAN Switch 2/32	
221470-B21	2 Gb SFP SW Transceiver	24
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	2
221692-B21	Fiber Cable, LC-LC, Optical, 2M	6
221692-B22	Fiber Cable, LC-LC, Optical, 5M	6
221692-B23	Fiber Cable, LC-LC, Optical, 15M	
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	8
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	8
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	4

Part Number Key		
	WWW	XXX
US	ABA	001
EMEA	ABB	421

LC 1000 Series Fibre Channel GFS (4 node - 12 TB)



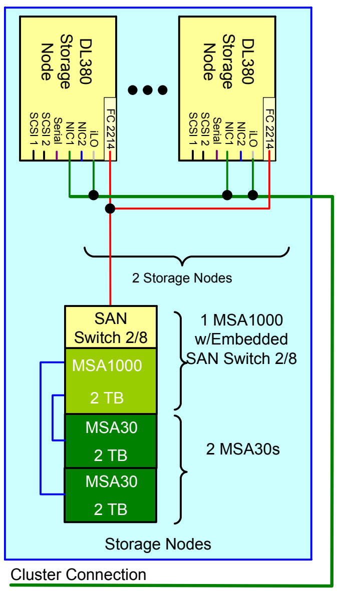


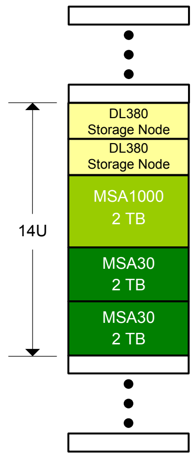
Note: Please refer to the storage subsystem options table for adding processors, memory, disks, network adapters, rack and power, ...

Part Numbers	Storage Subsystem Parts List	FC GFS 4 node - 12 TB
	DL380G3 Storage Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	4
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
281541-B21	FCA2214 (FC HBA)	4
273914-B21	SA 6404 (SCSI HBA)	
	Storage Components	**Quantity**
302969-B21	MSA30 SB w1 12' VHCDI cable	4
201724-B21	MSA500 w/2 6' VHDCI cables & 128MB cache	
201723-B22	MSA1000 w/256MB cache, I/O module & 1 SFP	2
	Management/Storage Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
J4903A#WWW	ProCurve 2824 - 10/100/1000-T Switch, 24 Ports, 1U	1
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	1
288247-B21	MSA1000 SAN Switch 2/8 (Ships with 4 SFPs)	1
322118-B21	SAN Switch 2/16	
240603-B21	SAN Switch 2/32	
221470-B21	2 Gb SFP SW Transceiver	2
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	1
221692-B21	Fiber Cable, LC-LC, Optical, 2M	3
221692-B22	Fiber Cable, LC-LC, Optical, 5M	
221692-B23	Fiber Cable, LC-LC, Optical, 15M	
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	8
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	4

Part Number Key		
	WWW	XXX
US	ABA	001
EMEA	ABB	421

LC 1000 Series Fibre Channel GFS (2 node - 6 TB)



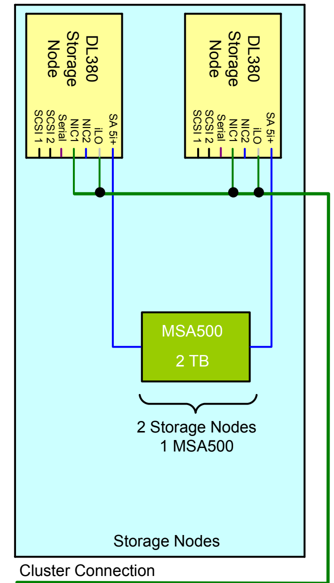


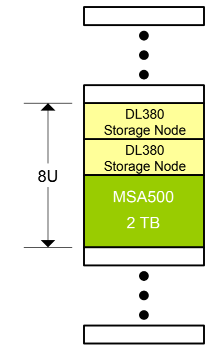
Note: Please refer to the storage subsystem options table for adding processors, memory, disks, nework adapters, rack and power, ...

Part Numbers	Storage Subsystem Parts List	FC GFS 2 Node - 6TB
	DL380G3 Storage Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	2
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
281541-B21	FCA2214 (FC HBA)	2
273914-B21	SA 6404 (SCSI HBA)	
	Storage Components	**Quantity**
302969-B21	MSA30 SB w1 12' VHCDI cable	2
201724-B21	MSA500 w/2 6' VHDCI cables & 128MB cache	
201723-B22	MSA1000 w/256MB cache, I/O module & 1 SFP	1
	Management/Storage Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
J4903A#WWW	ProCurve 2824 - 10/100/1000-T Switch, 24 Ports, 1U	
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	
288247-B21	MSA1000 SAN Switch 2/8 (Ships with 4 SFPs)	1
322118-B21	SAN Switch 2/16	
240603-B21	SAN Switch 2/32	
221470-B21	2 Gb SFP SW Transceiver	
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	
221692-B21	Fiber Cable, LC-LC, Optical, 2M	2
221692-B22	Fiber Cable, LC-LC, Optical, 5M	
221692-B23	Fiber Cable, LC-LC, Optical, 15M	
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	4

Part Number Key		
	WWW	XXX
US	ABA	001
EMEA	ABB	421

LC 1000 Series SCSI High Availability NFS 2TB

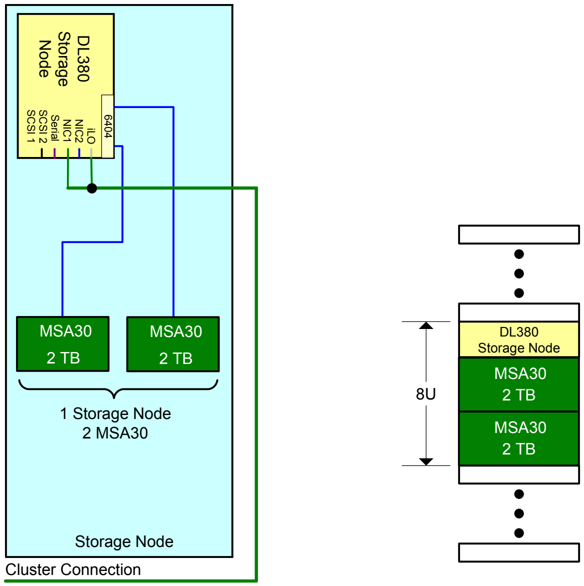




Note: Please refer to the storage subsystem options table for adding processors, memory, disks, nework adapters, rack and power, ...

Part Numbers	Storage Subsystem Parts List	SCSI HA NFS 2TB
	DL380G3 Storage Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	2
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
281541-B21	FCA2214 (FC HBA)	
273914-B21	SA 6404 (SCSI HBA)	
	Storage Components	**Quantity**
302969-B21	MSA30 SB w1 12' VHCDI cable	
201724-B21	MSA500 w/2 6' VHDCI cables & 128MB cache	1
201723-B22	MSA1000 w/256MB cache, I/O module & 1 SFP	
	Management/Storage Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
J4903A#WWW	ProCurve 2824 - 10/100/1000-T Switch, 24 Ports, 1U	
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	
288247-B21	MSA1000 SAN Switch 2/8 (Ships with 4 SFPs)	
322118-B21	SAN Switch 2/16	
240603-B21	SAN Switch 2/32	
221470-B21	2 Gb SFP SW Transceiver	
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	
221692-B21	Fiber Cable, LC-LC, Optical, 2M	
221692-B22	Fiber Cable, LC-LC, Optical, 5M	
221692-B23	Fiber Cable, LC-LC, Optical, 15M	
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	4

LC 1000 Series SCSI NFS 4TB

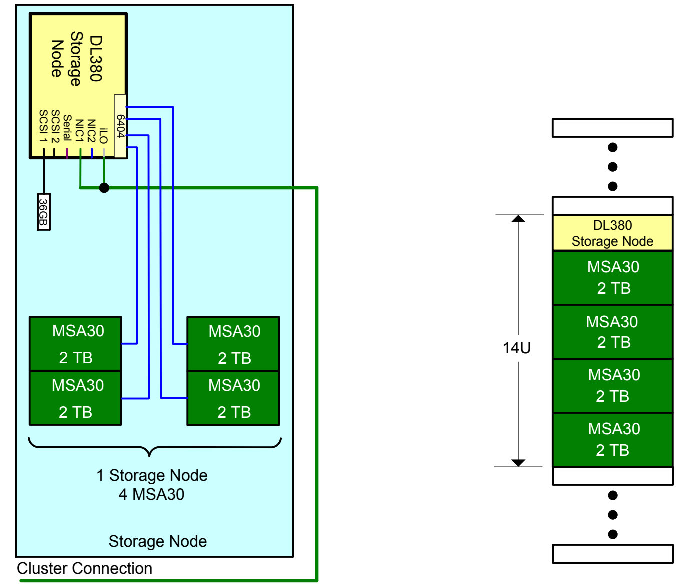


Note: Please refer to the storage subsystem options table for adding processors, memory, disks, nework adapters, rack and power, ...

Part Numbers	Storage Subsystem Parts List	SCSI NFS 4TB
	DL380G3 Storage Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
281541-B21	FCA2214 (FC HBA)	
273914-B21	SA 6404 (SCSI HBA)	1
	Storage Components	**Quantity**
302969-B21	MSA30 SB w1 12' VHCDI cable	2
201724-B21	MSA500 w/2 6' VHDCI cables & 128MB cache	
201723-B22	MSA1000 w/256MB cache, I/O module & 1 SFP	
	Management/Storage Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
J4903A#WWW	ProCurve 2824 - 10/100/1000-T Switch, 24 Ports, 1U	
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	
288247-B21	MSA1000 SAN Switch 2/8 (Ships with 4 SFPs)	
322118-B21	SAN Switch 2/16	
240603-B21	SAN Switch 2/32	
221470-B21	2 Gb SFP SW Transceiver	
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	
221692-B21	Fiber Cable, LC-LC, Optical, 2M	
221692-B22	Fiber Cable, LC-LC, Optical, 5M	
221692-B23	Fiber Cable, LC-LC, Optical, 15M	
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	2

Part Number Key		
	WWW	XXX
US	ABA	001
EMEA	ABB	421

LC 1000 Series SCSI NFS 8TB



Note: Please refer to the storage subsystem options table for adding processors, memory, disks, nework adapters, rack and power, ...

Part Numbers	Storage Subsystem Parts List	SCSI NFS 8TB
	DL380G3 Storage Node	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM	1
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM	
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM	
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM	
281541-B21	FCA2214 (FC HBA)	
273914-B21	SA 6404 (SCSI HBA)	1
	Storage Components	**Quantity**
302969-B21	MSA30 SB w1 12' VHCDI cable	4
201724-B21	MSA500 w/2 6' VHDCI cables & 128MB cache	
201723-B22	MSA1000 w/256MB cache, I/O module & 1 SFP	
	Management/Storage Interconnect	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U	
J4903A#WWW	ProCurve 2824 - 10/100/1000-T Switch, 24 Ports, 1U	
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount	
288247-B21	MSA1000 SAN Switch 2/8 (Ships with 4 SFPs)	
322118-B21	SAN Switch 2/16	
240603-B21	SAN Switch 2/32	
221470-B21	2 Gb SFP SW Transceiver	
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT	
221692-B21	Fiber Cable, LC-LC, Optical, 2M	
221692-B22	Fiber Cable, LC-LC, Optical, 5M	
221692-B23	Fiber Cable, LC-LC, Optical, 15M	
BN26M-03 or 263474-B22	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or CAT 5E Cable (US), 6 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	
BN26M-04 or 263474-B23	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or CAT 5E Cable (US), 12 FT, 8 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	
BN26M-07 or 263474-B24	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or CAT 5E Cable (US), 20 FT, 4 Per Pack *** For US, divide Quantity by 8 and round up to the nearest integer.	2

LC 1000 Series Storage Subsystem Options

Note: Please make multiple copies for future use.

Part Numbers	Storage Subsystem Options	Order
	DL380G3	**Quantity**
263825-B21	iLO Advanced Pack ALL	
293048-B21	Fan Kit	
333714-B21	1P-3.2GHz 1MB Cache 533MHz FSB Processor Option	
333713-B21	1P-3.06GHz 1MB Cache 533MHz FSB Processor Option	
257916-B21	1P-3.06GHz 512KB Cache 533MHz FSB Processor	
257915-B21	1P-2.8GHz 512KB Cache 400MHz FSB Processor Option	
300678-B21	512MB PC2100 Memory Kit (2X256MB)	
300679-B21	1024MB PC2100 Memory Kit (2X512MB)	
300680-B21	2048MB PC2100 Memory Kit (2X1024MB)	
300682-B21	4096MB PC2100 Memory Kit (2X2048MB)	
313054-B21	Hot Plug Redundant Power Supply	
	Disk Drives	**Quantity**
286713-B22	36.4 GB U320 10K	
286714-B22	72.8 GB U320 10K	
286716-B22	146.8 GB U320 10K	
286775-B22	18.2 GB U320 15K	
286776-B22	36.4 GB U320 15K	
286778-B22	72.8 GB U320 15K	
	Storage Options	**Quantity**
153506-B21	128BM Controler cache module	
254786-B21	256 MB Controller cache module	
	Rack and Power Components	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet	
221546-YYY	TFT5600RKM	
169989-001	K/M/M Ext Cable US	
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage	
246099-B21	Side Panel 42U, 10K Series All	
246107-B21	Stabilizer 600mm, 10K Series All	
248929-B21	Baying Kit, 10K Series All	
253214-B21	Blanking Panel, 10 Per Set, 1U, 10K Series All	

Part Number Key		
	YYY	ZZZ
US	001	D72
EMEA	B31	B31

LC 1000 Series Myrinet DL140 Cluster Upgrade Worksheet

Note: Please make multiple copies for future use.

Part Numbers	LC 1000 Series Parts List Myrinet Upgrade	Current Configuration	New Configuration	Parts Needed (New Config - Current Config)
	DL380G3 Control Node	**Quantity**	**Quantity**	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM			
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM			
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM			
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM			
	DL140 Compute Nodes	**Quantity**	**Quantity**	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM			
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM			
257894-006	Myrinet Fiber PCI-X Single Port Adapter Card - M3F-PCIXD-2			
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches			
	IB / OOB Management Interconnect	**Quantity**	**Quantity**	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U			
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190			
365242-001	Cyclades RS-232 to RJ45 Adapter			
	Cluster Interconnect	**Quantity**	**Quantity**	**Quantity**
257896-002	Myrinet 5-Slot Switch Frame, 3U, Max Support 32 Ports - M3-E32			
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64			
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128			
257895-001	Myrinet 8-Port Fiber Switch Card With XBar - M3-SW16-8F			
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M			
337807-001	Myrinet Front Blanking Panel - M3-BLANK			
360363-B21	Myrinet Switch Rail Kit			
	Common Interconnect Parts	**Quantity**	**Quantity**	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount			
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT			
BN26M-03 or	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or			
263474-B22	CAT 5E Cable (US), 6 FT, 8 Per Pack			
BN26M-04 or	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or			
263474-B23	CAT 5E Cable (US), 12 FT, 8 Per Pack			
BN26M-07 or	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or			
263474-B24	CAT 5E Cable (US), 20 FT, 4 Per Pack			
221692-B22	Fiber Cable, LC-LC, OPTICAL, 5M			
221692-B23	Fiber Cable, LC-LC, OPTICAL, 15M			
	Rack and Power Components	**Quantity**	**Quantity**	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet			
221546-YYY	TFT5600RKM			
169989-001	Keyboard/Mouse/Monitor Extension Cable			
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage			
246099-B21	Side Panel 42U, 10K Series All			
246107-B21	Stabilizer 600mm, 10K Series All			
248929-B21	Baying Kit, 10K Series All			
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All			

Part Number Key				
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

LC 1000 Series GigE DL140 Cluster Upgrade Worksheet

Note: Please make multiple copies for future use.

Part Numbers	LC 1000 Series Parts List GigE Upgrade	Current Configuration	New Configuration	Parts Needed (New Config - Current Config)
	DL380G3 Control Node	**Quantity**	**Quantity**	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM			
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM			
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM			
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM			
	DL140 Compute Nodes	**Quantity**	**Quantity**	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM			
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM			
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches			
	IB / OOB Management Interconnect	**Quantity**	**Quantity**	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U			
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190			
365242-001	Cyclades RS-232 to RJ45 Adapter			
	Cluster Interconnect	**Quantity**	**Quantity**	**Quantity**
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U			
257896-003	Myrinet 9-Slot Switch Frame, 5U, Max Support 64 Ports - M3-E64			
257896-004	Myrinet 17-Slot Switch Frame, 9U, Max Support 128 Ports - M3-E128			
356921-B21	Myrinet 8-Port GigE Switch Card With XBar - M3-SW16-8E			
262818-001	Myrinet SNMP Monitoring Line Card, Dual Port - M3-M			
337807-001	Myrinet Front Blanking Panel - M3-BLANK			
360363-B21	Myrinet Switch Rail Kit			
	Common Interconnect Parts	**Quantity**	**Quantity**	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount			
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT			
BN26M-03 or	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or			
263474-B22	CAT 5E Cable (US), 6 FT, 8 Per Pack			
BN26M-04 or	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or			
263474-B23	CAT 5E Cable (US), 12 FT, 8 Per Pack			
BN26M-07 or	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or			
263474-B24	CAT 5E Cable (US), 20 FT, 4 Per Pack			
	Rack and Power Components	**Quantity**	**Quantity**	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet			
221546-YYY	TFT5600RKM			
169989-001	Keyboard/Mouse/Monitor Extension Cable			
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage			
246099-B21	Side Panel 42U, 10K Series All			
246107-B21	Stabilizer 600mm, 10K Series All			
248929-B21	Baying Kit, 10K Series All			
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All			

Part Number Key				
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31

LC 1000 Series Fast Ethernet DL140 Cluster Upgrade Worksheet

Note: Please make multiple copies for future use.

Part Numbers	LC 1000 Series Parts List Fast Ethernet Upgrade	Current Configuration	New Configuration	Parts Needed (New Config - Current Config)
	DL380G3 Control Node	**Quantity**	**Quantity**	**Quantity**
333705-XXX	DL380G3 1P-3.2GHz 1MB Cache 533MHz FSB, 2X512MB RAM			
333704-XXX	DL380G3 1P-3.06GHz 1MB Cache 533MHz FSB, 2X512MB RAM			
310587-XXX	DL380G3 1P-3.06GHz 512KB Cache 533MHz FSB, 2X512MB RAM			
349201-XXX	DL380G3 1P-2.8GHz 512KB Cache 400MHz FSB, 2X512MB RAM			
	DL140 Compute Nodes	**Quantity**	**Quantity**	**Quantity**
350534-B21	DL140 1P-2.4GHz 512KB Cache 533MHz FSB, 1X512MB RAM			
350535-B21	DL140 2P-2.4GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
359043-B21	DL140 1P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
356533-B21	DL140 2P-3.06GHz 512KB Cache 533MHz FSB, 1X1GB RAM			
350533-B21	DL140 2P-3.2GHz 1MB Cache 533MHz FSB, 1X1GB RAM			
142257-B28	Power Cord, SPT-2, IEC-C13 IEC-C14, 20 inches			
	IB / OOB Management Interconnect	**Quantity**	**Quantity**	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U			
J4904A#WWW	ProCurve 2848 - 10/100/1000-T Switch, 48 Ports, 1U			
355477-B21	Cyclades Alterpath ACS, Console Server, 48 Ports - ATP0190			
365242-001	Cyclades RS-232 to RJ45 Adapter			
	Cluster Interconnect	**Quantity**	**Quantity**	**Quantity**
J4899A#WWW	ProCurve 2650 - 10/100-T Switch, 50 Ports, 1U			
J4848A#WWW	Procurve 5372xl - 10/100-TX Switch, 8 Slot Modules, 5U, 3 Slots Filled			
J4820A	Procurve Switch XL 10/100-TX Switch Module, 24 Ports Per Module			
	Common Interconnect Parts	**Quantity**	**Quantity**	**Quantity**
356578-B21	1U Switch Rail Kit, 10K Series Rack Mount			
142257-006	Power Cord, IEC-C13 IEC-C14, 4.5FT			
BN26M-03 or	Shielded CAT 5E Cable (EMEA), 3M, 1 Per or			
263474-B22	CAT 5E Cable (US), 6 FT, 8 Per Pack			
BN26M-04 or	Shielded CAT 5E Cable (EMEA), 4M, 1 Per or			
263474-B23	CAT 5E Cable (US), 12 FT, 8 Per Pack			
BN26M-07 or	Shielded CAT 5E Cable (EMEA), 7M, 1 Per or			
263474-B24	CAT 5E Cable (US), 20 FT, 4 Per Pack			
	Rack and Power Components	**Quantity**	**Quantity**	**Quantity**
245161-B22	Rack 10642 (42U) Shock Pallet			
221546-YYY	TFT5600RKM			
169989-001	Keyboard/Mouse/Monitor Extension Cable			
252663-ZZZ	Modular PDU, 24A (US) or 32A (EMEA), High Voltage			
246099-B21	Side Panel 42U, 10K Series All			
246107-B21	Stabilizer 600mm, 10K Series All			
248929-B21	Baying Kit, 10K Series All			
253214-B21	Blanking Panels, 10 Per Set, 1U, 10K Series All			

Part Number Key				
	WWW	XXX	YYY	ZZZ
US	ABA	001	001	D72
EMEA	ABB	421	B31	B31